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*W. E. Coolidge*

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# ANNUAL REGISTER

OF THE

## UNITED STATES NAVAL ACADEMY,

ANNAPOLIS, MD.

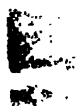
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*35 to*

THIRTY-FIFTH ACADEMIC YEAR, 1884/85

1884-85.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1884.



ANNUAL REGISTER

OF THE

UNITED STATES NAVAL ACADEMY,

ANNAPOLIS, MD.

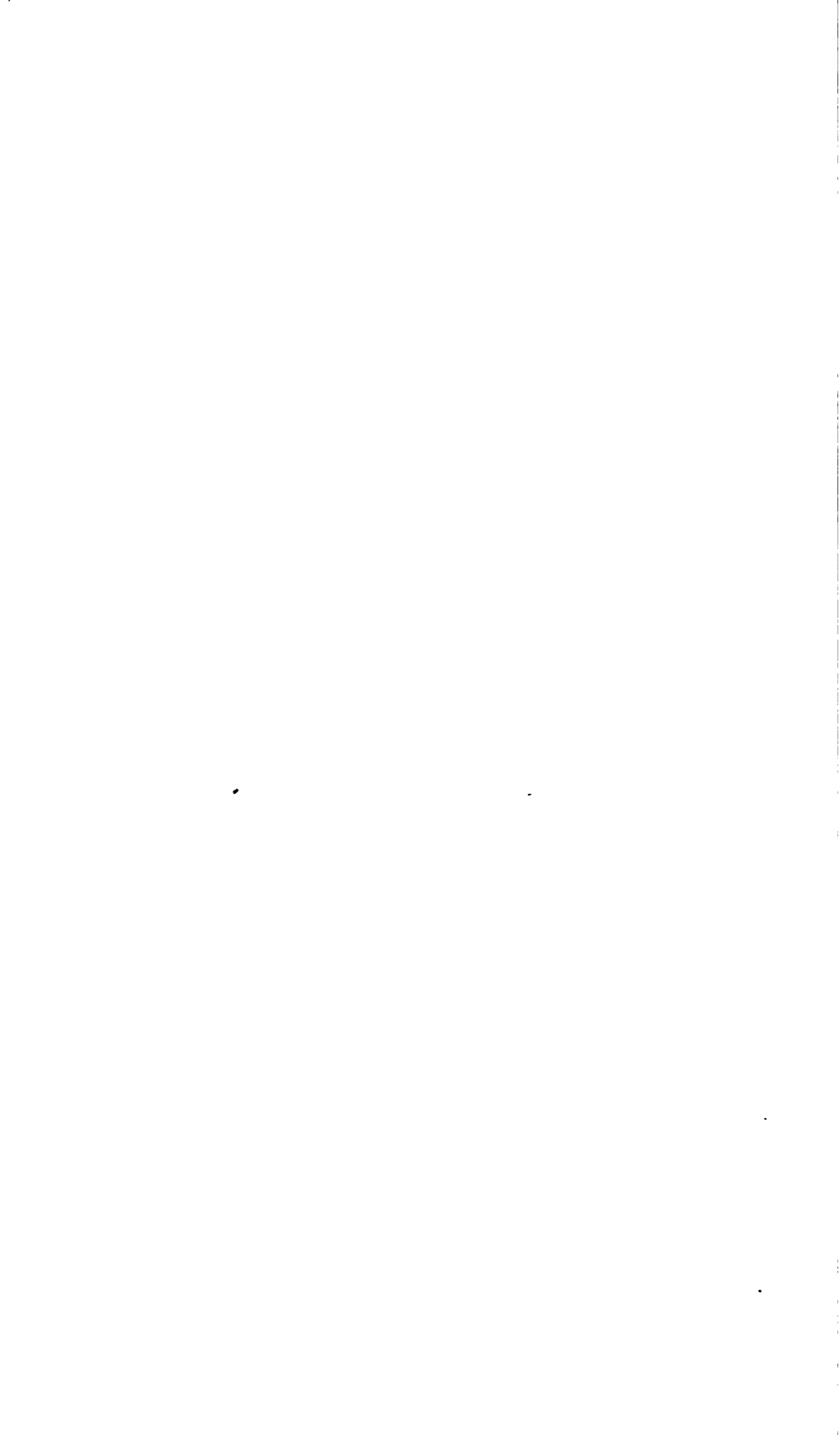
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THIRTY-FIFTH ACADEMIC YEAR,

1884-85.



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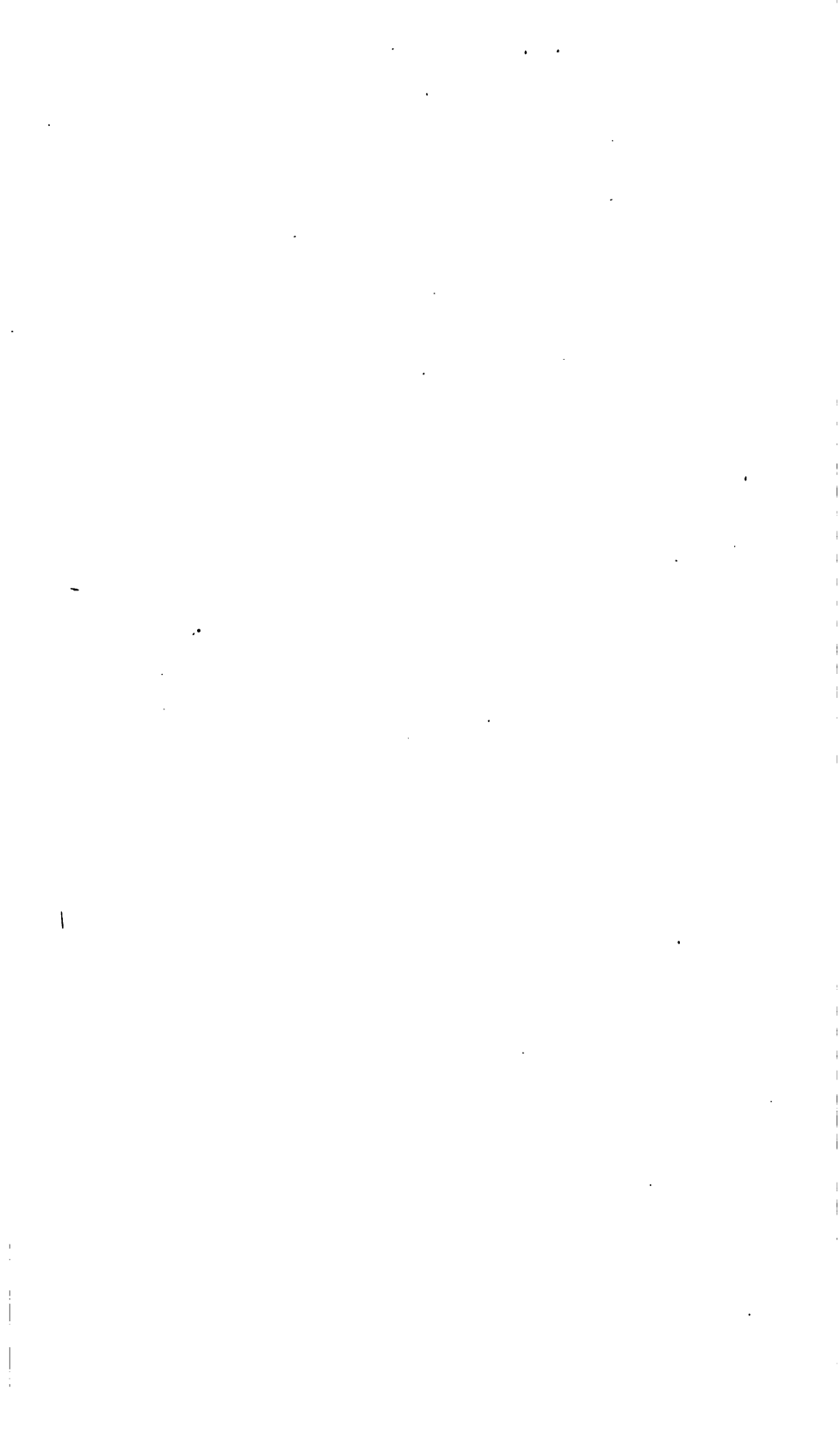
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# CONTENTS.

	Page.
HISTORICAL SKETCH . . . . .	5
SUPERINTENDENTS . . . . .	7
BOARD OF VISITORS . . . . .	8
ACADEMIC CALENDAR . . . . .	9
CALENDAR 1884-85 . . . . .	10
OFFICERS . . . . .	11
ACADEMIC BOARD . . . . .	14
CADET OFFICERS . . . . .	14
PRACTICE-CRUISE, 1884 . . . . .	15
CADETS, WITH RELATIVE STANDING IN CLASSES . . . . .	18
NUMERICAL SUMMARY . . . . .	29
RESIGNATIONS AND DISMISSALS . . . . .	30
MERIT-ROLLS, 1883-84 . . . . .	32
REQUISITES FOR ADMISSION . . . . .	40
COURSE OF INSTRUCTION . . . . .	45
ASSIGNMENT OF TIME . . . . .	54
PROGRAMME OF RECITATIONS . . . . .	55
TABLE OF COEFFICIENTS . . . . .	56
COURSE OF PRACTICAL INSTRUCTION . . . . .	57
PROGRAMME OF PRACTICAL INSTRUCTION . . . . .	58

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## THE UNITED STATES NAVAL ACADEMY.

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The United States Naval Academy was founded in 1845, by the Hon. George Bancroft, Secretary of the Navy, in the administration of President James K. Polk. It was formally opened October 10, of that year, under the name of the Naval School, with Commander Franklin Buchanan as Superintendent. It was placed at Annapolis, Md., on the land occupied by Fort Severn, which was given up by the War Department for the purpose. The course was fixed at five years, of which only the first and last were spent at the School, the intervening three being passed at sea. This arrangement was not strictly adhered to, the exigencies of the service making it necessary, in many cases, to shorten the period of study. In January, 1846, four months after the opening of the School, the students consisted of 36 Midshipmen, of the date of 1840, who were preparing for the examination for promotion; 13 of the date of 1841, who were to remain until drafted for service at sea; and 7 Acting Midshipmen, appointed since September of the previous year. The Midshipmen of the date of 1840 were the first to be graduated, finishing their limited course in July, 1846, and they were followed in order by the subsequent dates, until the reorganization of the School, in 1850.

In September, 1849, a Board was appointed to revise the plan and regulations of the Naval School. The Board was composed of the following officers:

Commander William B. Shubrick,  
Commander Franklin Buchanan,  
Commander Samuel F. Dupont,  
Commander George P. Upshur,  
Surgeon W. S. W. Ruschenberger,  
Professor William Chauvenet,  
Captain Henry Brewerton, U. S. A.

The plan reported by the Board was approved, and went into operation July 1, 1850.

The new organization provided for a course of seven years, the first two and the last two at the School and the three intermediate years at sea. The School was placed under the supervision of the Bureau of Ordnance and Hydrography, and its name was changed to the United States Naval Academy. The corps of professors was enlarged, the course was extended, and the system of separate departments, with executive heads, was fully adopted. It was provided that a Board of Visitors should make an annual inspection of the Academy, and report upon its condition to the Secretary of the Navy. A suitable vessel was attached to the Academy as a practice-ship, and the annual practice-cruises were begun.

After the system had been in operation a year new changes were proposed, and the recommendations of the Academic Board on the subject were referred to the Board of Examiners of the year 1851, composed of the following officers:

Commodore David Conner,  
Captain Samuel L. Breese,  
Commander C. K. Stribling,  
Commander A. Bigelow,  
Commander Franklin Buchanan,  
Lieutenant Thomas T. Craven.

The change recommended by the Board of Examiners, and adopted by the Department, consisted mainly in leaving out the requirement of three years of sea-service in the middle of the course, thus making the four years of study consecutive. The practice-cruise supplied the place of the omitted sea-service, and gave better opportunities of training. The change went into operation in November, 1851, together with other improvements recommended by the Board. The system has been continued, with some slight modifications, to the present time. The first class to receive the benefit of it was that which entered in 1851. Six members of this class completed the course in three years, and were graduated in June, 1854; the rest of the class followed in 1855.

In May, 1861, on the outbreak of the war, the Academy was removed to Newport, R. I. The three upper classes were detached and ordered to sea, and the remaining Acting Midshipmen were quartered in the Atlantic House and on board the frigates Constitution and Santee. In September, 1865, the Academy was moved back to Annapolis, where it has since remained.

When the Bureau of Navigation was established, July 5, 1862, the Academy was placed under its supervision; March 1, 1867, it was placed under the direct care and supervision of the Navy Department, the administrative routine and financial management being still conducted through the Bureau. On the 11th of March, 1869, all official connection with the Bureau came to an end.

The term of the academic course was changed by law, March 3, 1873, from four to six years. The change took effect with the class which entered in the following summer.

In 1866 a class of Acting Third Assistant Engineers was ordered to the Academy for instruction. The course embraced the subjects of steam engineering, mechanism, chemistry, and mechanics, and practical exercises with the steam engine and in the machine-shop. This class was graduated in June, 1868, together with two Cadet-Engineers who had entered the Academy in 1867. After an interval of four years, in October, 1871, a new class of Cadet-Engineers was admitted. This class followed a two years' course, somewhat more extended than that of the class of 1868, and was graduated in 1873. In 1872 and in 1873 new classes were admitted, the first of which left the Academy in 1874 and the second in 1875. By an act of Congress, approved February 24, 1874, the course of instruction for Cadet-Engineers was made four years instead of two; and the new provision was first applied to the class entering the Academy in the year 1874. This class was graduated in June, 1878.

By an act of Congress, approved August 5, 1882, it was provided that from that date "there shall be no appointments of Cadet-Midshipmen or Cadet-Engineers at the Naval Academy, but in lieu thereof Naval Cadets shall be appointed from each Congressional district and at large, as now provided by law for Cadet-Midshipmen, and all the undergraduates at the Naval Academy shall thereafter be designated and called 'Naval Cadets;' and from those who successfully complete the six years' course appointments shall hereafter be made as it is necessary to fill vacancies in the lower grades of the Line and Engineer Corps of the Navy and of the Marine Corps: *And provided further,* That no greater number of appointments into these grades shall be made each year than shall equal the number of vacancies which has occurred in the same grades during the preceding year, such appointments to be made from the graduates of the year at the conclusion of their six years' course, in the order of merit, as determined by the Academic Board of the Naval Academy; the assignment to the various corps to be made by the Secretary of the Navy upon the recommendation of the Academic Board. But nothing herein contained shall reduce the number of appointments from such graduates below ten in each year, nor deprive of such appointment any graduate who may complete the six years' course during the year 1882. And if there be a surplus of graduates, those who do not receive such appointment shall be given a certificate of graduation, an honorable discharge, and one year's sea-pay, as now provided by law for Cadet-Midshipmen; and so much of section 1521 of the Revised Statutes as is inconsistent herewith is hereby repealed."

"That any Cadet whose position in his class entitles him to be retained in the service upon his own application, be honorably discharged at the end of four years' course at the Naval Academy, with a proper certificate of graduation."

**SUPERINTENDENTS**  
**OF THE**  
**UNITED STATES NAVAL ACADEMY.**

---

**Assumed Command:**

- Sept. 3, 1845.**—Commander Franklin Buchanan.  
**Mar. 15, 1847.**—Commander George P. Upshur.  
**July 1, 1850.**—Commander Cornelius K. Stribling.  
**Nov. 1, 1853.**—Commander Louis M. Goldsborough.  
**Sept. 15, 1857.**—Captain George S. Blake.  
**Sept. 9, 1865.**—Rear-Admiral David D. Porter.  
**Dec. 1, 1869.**—Commodore John L. Worden.  
**Sept. 22, 1874.**—Rear-Admiral C. R. P. Rodgers.  
**July 1, 1878.**—Commodore Foxhall A. Parker.  
**Aug. 2, 1879.**—Rear-Admiral George B. Balch.  
**June 13, 1881.**—Rear-Admiral C. R. P. Rodgers.  
**Nov. 14, 1881.**—Captain F. M. Ramsay.

## BOARD OF VISITORS, JUNE, 1884.

---

REAR-ADMIRAL R. W. SHUFELDT, U. S. Navy, *President.*

HON. ROBERT C. SCHENCK, Washington, D. C., *Vice-President.*

Hon. GEORGE H. PENDLETON,	U. S. Senate.
Hon. ANGUS CAMERON,	U. S. Senate.
Hon. S. S. COX,	House of Representatives.
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Prof. EDWARD S. JOYNES,	Columbia, S. C.
Mr. ERWIN S. JEWETT,	Kansas.
Mr. WILLIAM H. UPHAM,	Wisconsin.

# ACADEMIC CALENDAR.

1884-1885.

1884.	
Oct.	1.—Beginning of first term . . . . . Wednesday.
1885.	
Jan.	26-31.—Semi-annual examination . . . . . Monday-Saturday.
Jan.	31.—End of first term . . . . . Saturday.
June	1-6.—Annual examination . . . . . Monday-Saturday.
June	6.—End of academic year, 1884-85 . . . . . Saturday.
May	15.—Examination of candidates for admission as Naval Cadets . . . . . Friday.
Sept.	1.—Examination of candidates for admission as Naval Cadets . . . . . Tuesday.
Oct.	1.—Beginning of first term, 1885-86 . . . . . Thursday.

The academic months end on the following days :

1884-1885.

October . . . . .	Nov. 1	February . . . . .	Feb. 28
November . . . . .	Nov. 29	March . . . . .	Mar. 28
December . . . . .	Dec. 27	April . . . . .	Apr. 25
January . . . . .	Jan. 24	May . . . . .	May 23

1885-1886.

October . . . . .	Oct. 31	December . . . . .	Dec. 26
November . . . . .	Nov. 28	January . . . . .	Jan. 23



*M. E. Cooley*

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# ANNUAL REGISTER

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## UNITED STATES NAVAL ACADEMY,

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THIRTY-FIFTH ACADEMIC YEAR, *1884/85*

1884-85.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1884.



# 12 OFFICERS OF THE UNITED STATES NAVAL ACADEMY.

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### *Assistants,*

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LIEUTENANT W. J. BARNETTE,  
LIEUTENANT R. G. PECK.

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### *Assistants,*

PASSED ASSISTANT ENGINEER J. K. BARTON,  
ASSISTANT ENGINEER W. M. PARKS,  
ASSISTANT ENGINEER W. R. KING,  
ASSISTANT ENGINEER G. H. T. BABBITT.

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### *Assistants,*

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ENSIGN W. F. FULLAM,  
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LIEUTENANT F. H. HOLMES,  
ENSIGN H. D. KNAPP,  
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PROFESSOR C. E. MUNROE, S. B.

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PROFESSOR M. OLIVER,  
ASSISTANT PROFESSOR C. F. BLAUVELT.

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OFFICERS NOT ATTACHED TO THE ACADEMIC STAFF.

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SURGEON T. C. WALTON, M. D.  
PASSED ASSISTANT SURGEON B. F. ROGERS, M. D.  
PASSED ASSISTANT SURGEON G. E. H. HARMON, M. D.  
PASSED ASSISTANT SURGEON C. W. RUSH, M. D.  
PAYMASTER F. H. ARMS, *Pay Officer and Storekeeper.*  
PAYMASTER J. P. LOOMIS, *Commissary.*  
CHAPLAIN A. A. McALISTER.  
ASSISTANT PROFESSOR THOMAS KARNEY, A. M., *Librarian.*  
J. J. GRAFF, *Assistant Librarian.*  
R. M. CHASE, *Secretary.*

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*Attached to the Ships.*

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GUNNER ROBERT SOMMERS.  
CARPENTER G. W. CONOVER.

MATES.

*Attached to the Santee, the Dale, and the Philox.*

SAMUEL GEE,  
JAMES HILL,  
C. J. MURPHY,

B. G. PERRY,  
JOSEPH ROGERS,  
ROBERT SILVER,

W. G. SMITH.

MARINE OFFICERS.

CAPTAIN McLANE TILTON, *Commanding Marines.*  
FIRST LIEUTENANT S. H. GIBSON.

ACADEMIC BOARD.

THE SUPERINTENDENT.

THE COMMANDANT OF CADETS.

THE HEAD OF THE DEPARTMENT OF SEAMANSHIP, NAVAL TACTICS, AND NAVAL CONSTRUCTION.

THE HEAD OF THE DEPARTMENT OF ORDNANCE AND GUNNERY.

THE HEAD OF THE DEPARTMENT OF ASTRONOMY, NAVIGATION, AND SURVEYING.

THE HEAD OF THE DEPARTMENT OF STEAM ENGINEERING.

THE HEAD OF THE DEPARTMENT OF MECHANICS, AND APPLIED MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF PHYSICS AND CHEMISTRY.

THE HEAD OF THE DEPARTMENT OF MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF ENGLISH STUDIES, HISTORY, AND LAW.

THE HEAD OF THE DEPARTMENT OF MODERN LANGUAGES.

THE HEAD OF THE DEPARTMENT OF MECHANICAL DRAWING.

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CADET-LIEUTENANTS,

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W. W. JOYNES,

H. A. BISPHAM,  
W. W. GILMER.

CADET-MASTERS,

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T. C. FENTON,

G. R. SLOCUM,  
R. L. RUSSELL.

CADET-ENSIGNS,

J. P. MCGUINNESS,  
J. W. KITTRELL,

A. C. DIEFFENBACH,  
W. G. MILLER,

J. E. SHINDEL.

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B. WRIGHT,  
V. O. CHASE  
G. W. KLINE,

A. THOMPSON,  
C. S. STANWORTH,  
J. STRAUSS,  
T. B. SLADE,

G. R. EVANS,  
C. M. MCCORMICK,  
E. W. EBERLE,  
R. E. COONTZ.

*Cadet-petty-officers of the second class,*

W. H. G. BULLARD,  
W. L. DODD  
J. W. OMAN,  
H. K. HINES,

W. H. FOUST,  
B. JACOBS,  
W. H. CALDWELL,  
S. M. STRITE,

F. A. LEVIS,  
G. F. COOPER,  
G. B. REILLY,  
C. C. BILLINGS.

## SUMMER CRUISE, 1884.

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### OFFICERS AND NAVAL CADETS.

---

#### UNITED STATES PRACTICE-SHIP CONSTELLATION.

COMMANDER N. H. FARQUHAR, *Commanding.*  
LIEUTENANT W. GOODWIN, *Executive Officer.*  
LIEUTENANT J. F. MEIGS, *Navigator and Instructor in Navigation.*  
LIEUTENANT E. H. GHEEN, *Watch Officer.*  
LIEUTENANT E. B. BARRY, *Watch Officer.*  
LIEUTENANT H. O. RITTENHOUSE, *Watch Officer.*  
LIEUTENANT J. C. CRESAP, *Watch Officer.*  
ENSIGN A. E. CULVER, *Assistant to Instructor in Navigation.*  
PAYMASTER T. S. THOMPSON.  
SURGEON J. C. WISE.  
PASSED ASSISTANT SURGEON T. M. MURRAY.  
CHAPLAIN A. A. MCALISTER.

#### NAVAL CADETS.

##### *First Class.*

Bootes, J. T.	McCormick, C. M.	Stanworth, C. S.
Chase, V. O.	McGuinness, J. P.	Strauss, J.
Corpening, C. M.	Miller, W. G.	Taylor, D. W.
Dashiell, J. M.	Russel, R. L.	Tennant, G. B.
Gilmer, W. W.	Rust, A.	Thompson, A.
Joynes, W. W.	Shindel, J. E.	Wright, B.
Kittrell, J. W.	Slade, T. B.	

##### *Third Class.*

Allen, H. A.	Davis, A. H.	Moale, E., jr.
Bachman, M. P.	Draper, H. L.	O'Neill, M. G.
Bertolette, L. C.	Edmonds, S. P.	Rodgers, H. C.
Blue, V.	Eyre, G. W.	Russell, F. M.
Bower, J. M.	Gueydan, H. L.	Scales, A. H.
Brown, F. H.	Hill, C. S.	Snow, E.
Bryan, H. F.	Hurlbut, S. R.	Stearns, B. W.
Burrage, G. H.	Jackson, R. H.	Stone, C. M.
Carnahan, J. S.	Johnston, C. E.	Swanstrom, F. E.
Childs, H. L.	La Tourrette, W. S.	Washington, T.
Cloke, W. S.	Long, A. T.	Wells, B. W.
Cohen, A. R. W.	McCully, N. A.	Wiley, H. A.
Coleman, R.	McMillan, W. G.	Wilmer, W. R.
Craig, C. C.	Martin, J. J.	

*Fourth Class.*

Anderson, L. J.	Frick, O. O'D.	Morris, J. R.
Baya, W. P.	Harris, J. V.	Mowbray, L.
Bassett, F. B., jr.	Hawke, E. E. S.	Murdough, F. O.
Beach, E. L.	Hayward, G. N.	Norton, A. L.
Behse, H. H.	Hicks, N. W.	Quinby, E. R.
Benham, H. K.	Hill, A. N.	Riley, J. F.
Beswick, D. W.	Hull, R. C.	Rowan, W. McD.
Brand, C. A.	Ingate, C. L. A.	Shaffer, P. C.
Brittain, C. B.	Kane, T. P.	Smith, R. M.
Campbell, A. P.	Kemp, H. G.	Smoak, M. F.
Carden, G. L.	Knoernschild, J. L.	Taylor, H., jr.
Carpenter, H. W.	Kochersperger, W. D.	Van Allen, J. McE.
Close, H. B.	Koester, O. W.	Van Antwerp, W. C.
Croze, W. M.	Lejeune, J. A.	West, E. E.
Dye, V. B.	Melson, E. P.	Wilbur, C. D.
Franklin, W. B.	Monroe, M. D.	Williams, C. B.

## UNITED STATES PRACTICE-SHIP DALE.

COMMANDER C. D. SIGSBEE, *Commanding.*  
 LIEUTENANT A. ROSS, *Executive Officer.*  
 LIEUTENANT F. M. WISE, *Navigator and Instructor in Navigation.*  
 LIEUTENANT R. T. JASPER, *Watch Officer.*  
 LIEUTENANT T. PORTER, *Watch Officer.*  
 LIEUTENANT A. C. DILLINGHAM, *Watch Officer.*  
 ENSIGN W. F. FULLAM, *Watch Officer.*  
 ENSIGN H. S. KNAPP, *Assistant to Instructor in Navigation.*  
 ASSISTANT PAYMASTER E. B. ROGERS.  
 PASSED ASSISTANT SURGEON D. N. BERTOLETTE.

## NAVAL CADETS.

*First Class.*

Bispham, H. A.	Fenton, T. C.	Pitner, S. E.
Burnstine, A.	Howell, R. B.	Poe, C. C.
Coontz, R. E.	Kline, G. W.	Slocum, G. R.
Dieffenbach, A. C.	Lombard, B. M.	Tarbox, G.
Dutton, A. H.	McKay, W.	Tawressey, J. G.
Eberle, E. W.	Nes, D. S.	Uberroth, P. H.
Evans, G. R.		

*Third Class.*

Allen, W. R.	Darby, S. E.	O'Halloran, T. M.
Ballinger, J. G.	Decker, B. C.	Peckham, H. L.
Blackwood, N. J.	Durell, E. H.	Pigott, M. R.
Boughter, F.	Eyre, W. P.	Ricketts, J. V.
Bristol, M. L.	Hibbs, F. W.	Salter, J. C.
Bruns, W. F.	Hudson, C. E.	Sims, J. W.
Burke, W. S.	Jewett, T. S.	Steber, B.
Callaghan, W. C.	Kalbach, L. A.	Stocker, R.
Cash, C. F.	Logan, G. W.	Straub, A. A.
Churchill, C.	McGee, H. W.	Ubsdell, J. A.
Cochran, C. S.	Marriott, J. J. C.	Waters, G.
Cole, E. K.	Moore, F. G.	Williams, W. H.
Craig, C. S.	Moseley, W. B.	Young, L. le S.

NAVAL CADETS ON BOARD THE UNITED STATES SHIP SANTEE, RETAINED AT THE ACADEMY FOR MACHINE SHOP AND OTHER PRACTICAL INSTRUCTION.

*Second Class.*

Andrews, P.	Foust, W. H.	McMillan, J. T.
Berry, J. G.	Griswold, J. N.	Oman, J. W.
Billings, C. C.	Hall, C. L.	Reilly, G. B.
Breed, G.	Hawk, G. F.	Rumsey, H. E.
Bullard, W. H. G.	Hines, H. K.	Stearns, J. W.
Caldwell, W. H.	Jacobs, B.	Strite, S. M.
Cooper, G. F.	Jenkins, F. W., jr.	Tisdale, R. D.
DeKrafft, J. C. P.	Johnson, E. V. D.	Winram, S. B.
Dodd, W. L.	Kress, F. N.	Witherspoon, E. T.
Edgar, W. A.	Levis, F. A.	Young, D. M.

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SUMMARY.

On board United States Ship Constellation . . . . .	109
On board United States Ship Dale . . . . .	58
On board United States Ship Santee . . . . .	30
Total . . . . .	197

*SYNOPSIS OF THE CRUISE.*

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*CONSTELLATION.*

Commissioned June 2. Cadets embarked June 9.

On June 16 sailed from Annapolis, beat down the bay, and went to sea June 25.

Arrived at Portsmouth, N. H., July 16.

Sailed from Portsmouth August 6, arrived in Chesapeake Bay August 12, and reached Annapolis August 28.

*DALE.*

Commissioned May 23. Cadets embarked June 9.

On June 16 sailed from Annapolis, beat down the bay, and went to sea June 26.

Arrived at Portsmouth, N. H., July 16.

Sailed from Portsmouth August 5, arrived in Chesapeake Bay August 12, and reached Annapolis August 28.

Class of 1884—

Order of general merit.	Name.	State.	Date of admission.
*1	Hewes, Charles Hinman . . . . .	Pennsylvania . . . . .	Oct. 1, 1880
*2	Knepper, Chas. . . . .	Pennsylvania . . . . .	Oct. 1, 1880
*3	Capps, Washington Lee . . . . .	Virginia . . . . .	Oct. 1, 1880
*4	Hoggatt, Wilford Bacon . . . . .	Indiana . . . . .	June 11, 1880
*5	Williams, Clarence Stewart . . . . .	Ohio . . . . .	Sept. 22, 1880
6	Beecher, Albert Morrison . . . . .	Iowa . . . . .	June 11, 1880
7	Hill, Frank Kinsey . . . . .	Ohio . . . . .	Oct. 1, 1880
8	Curtis, Frederic Ellsworth† . . . . .	Massachusetts . . . . .	Sept. 22, 1880
9	Welles, Roger, jr. . . . .	Connecticut . . . . .	Sept. 22, 1880
10	Moseley, Nathaniel Stockwell . . . . .	California . . . . .	Mar. 22, 1880
11	Field, Horace Almeron . . . . .	New York . . . . .	Oct. 1, 1880
12	McNulta, Herbert . . . . .	Illinois . . . . .	June 11, 1880
13	Hulme, Walter Oliphant . . . . .	New Jersey . . . . .	Oct. 1, 1880
14	McDonald, John Daniel . . . . .	Nevada . . . . .	Oct. 6, 1880
15	Parmenter, Henry Earl . . . . .	Rhode Island . . . . .	Oct. 1, 1880
16	Jones, Hilary Pollard . . . . .	Virginia . . . . .	Sept. 22, 1880
17	Terrell, Douglass Fuqua . . . . .	Mississippi . . . . .	Sept. 22, 1880
18	Hazeltine, Charles Walter . . . . .	Missouri . . . . .	June 11, 1880
19	Loomis, Frederick James . . . . .	Connecticut . . . . .	Oct. 1, 1880
20	Seymour, Isaac Knight . . . . .	Maine . . . . .	Sept. 22, 1880
21	Shoemaker, William Rawle . . . . .	New Mexico . . . . .	June 11, 1880
22	Plunkett, Charles Peeshall . . . . .	District of Columbia . . . . .	Sept. 30, 1879
23	McCreary, Wirt . . . . .	Pennsylvania . . . . .	June 11, 1879
24	Fahs, Charles Marion . . . . .	Alabama . . . . .	Oct. 1, 1880
25	Werntz, Robert Lincoln . . . . .	Pennsylvania . . . . .	Oct. 1, 1880
26	Whittlesey, Humes Houston . . . . .	Indiana . . . . .	Oct. 1, 1880
27	McKean, Josiah Slatts . . . . .	Ohio . . . . .	Sept. 22, 1879
28	Hayes, Charles Harold . . . . .	Pennsylvania . . . . .	Sept. 22, 1880
29	Jones, Horace Walker . . . . .	Virginia . . . . .	Oct. 1, 1880
30	Macpherson, Victor . . . . .	Kentucky . . . . .	Sept. 22, 1880
31	Bush, William Wirt, jr. . . . .	New York . . . . .	Sept. 22, 1880
32	Harrell, John Randolph † . . . . .	Louisiana . . . . .	Sept. 22, 1880
33	Crisp, Richard Owens† . . . . .	Maryland . . . . .	Oct. 1, 1880
34	Davis, Edward . . . . .	Pennsylvania . . . . .	Oct. 1, 1880
35	Johnston, William . . . . .	Mississippi . . . . .	June 11, 1880
36	Starr, John Barton . . . . .	Kansas . . . . .	Oct. 1, 1880
37	Smith, Sidney Fuller . . . . .	Massachusetts . . . . .	Sept. 22, 1880
38	O'Malley, William Ambrose . . . . .	Pennsylvania . . . . .	Sept. 22, 1880
39	Richardson, Thornton Russell . . . . .	Pennsylvania . . . . .	Oct. 1, 1880
40	Lawrence, William Hunter . . . . .	Pennsylvania . . . . .	Oct. 1, 1879
41	Mathews, Albert Clifton . . . . .	Ohio . . . . .	Oct. 1, 1880
42	Wirt, William Edgar . . . . .	Ohio . . . . .	Sept. 22, 1880
43	Orr, Robert Hunter . . . . .	Delaware . . . . .	Oct. 1, 1880

† Resigned.

## CADETS.

43 members.

Age at date of admission.		Order of merit in—							Conduct.	Number of demerits.	Sea-service in practice-ships.		Order of general merit for four years.
Years.	Months.	Astronomy, navigation, and surveying.	Least squares and strength of materials.	Ordnance instructions, infantry tactics, gunnery.	Theory and practice of gunnery.	Heat.	Seamanship and naval tactics.	Practical instruction in steam.			Months.	Days.	
16	4	1	1	1	1	1	5	2	1	0	4	20	*1
18	9	4	3	8	2	2	14	1	11	5	4	20	*2
16	8	6	4	8	4	7	10	2	1	0	4	20	*3
14	9	2	7	2	8	8	3	6	1	0	8	17	*4
16	11	2	2	3	6	4	1	14	1	0	6	29	*5
17	4	5	6	14	9	6	10	17	36	23	8	17	6
19	6	10	13	10	8	8	14	14	31	17	4	23	7
17	8	14	16	32	12	20	35	44	18	8	6	29	8
17	9	7	5	7	10	13	17	36	13	7	6	29	9
18	0	19	14	9	5	10	2	24	25	13	8	17	10
19	3	7	9	6	15	9	23	19	24	10	4	23	11
17	6	21	23	19	13	17	16	19	11	5	8	17	12
20	10	18	24	28	18	15	18	8	1	0	4	20	13
16	11	9	19	13	10	18	12	45	13	7	6	29	14
19	6	20	25	21	16	29	28	4	13	7	4	23	15
16	10	14	12	5	19	11	13	26	39	28	5	29	16
17	3	12	22	16	23	5	20	13	7	3	6	29	17
17	2	13	18	21	29	14	7	23	18	8	8	17	18
18	0	16	10	21	34	27	28	6	28	14	4	20	19
17	6	31	35	37	14	12	5	38	1	0	6	29	20
17	4	22	40	27	39	22	4	19	25	13	8	17	21
15	7	24	32	20	41	28	18	38	42	30	9	9	22
17	1	27	32	15	44	37	24	32	22	9	6	29	23
17	9	28	11	26	36	22	36	26	39	28	4	23	24
19	4	33	29	18	20	16	43	18	8	4	4	20	25
19	1	16	44	40	24	34	38	42	18	8	4	20	26
15	3	32	37	41	32	32	9	32	32	18	9	9	27
16	8	29	32	28	39	39	21	41	28	14	6	29	28
19	1	43	30	34	22	35	33	16	30	16	4	23	29
15	3	23	26	31	23	25	21	32	38	26	6	29	30
15	8	11	14	25	16	20	24	42	46	51	6	29	31
16	7	30	27	11	26	22	31	31	45	47	6	29	32
18	9	38	20	35	30	33	42	10	25	13	4	23	33
20	8	39	39	43	37	41	36	11	34	19	4	23	34
17	10	40	40	38	37	37	27	28	13	7	8	17	35
19	2	36	28	33	24	29	40	28	41	29	4	20	36
16	11	33	21	36	45	19	39	37	13	7	6	29	37
17	4	35	42	44	35	46	26	19	8	4	6	29	38
20	1	40	30	30	31	44	34	30	36	23	3	7	39
20	11	42	45	42	43	40	31	9	32	18	9	18	40
18	10	37	46	24	32	43	45	32	43	32	4	28	41
17	9	45	36	45	42	42	40	46	35	20	6	29	42
20	0	46	38	46	45	44	46	40	44	40	4	20	43



First class—

Order of annual merit.	Name.	State.	Date of admission.
16	Bispham, Harrison Augustus . . . . .	Pennsylvania . . . . .	Oct. 1, 1881
34	Bootes, James Thomas . . . . .	Delaware . . . . .	Oct. 1, 1881
32	Burnstine, Albert . . . . .	Michigan . . . . .	Sept. 22, 1881
*6	Chase, Volney Ogle . . . . .	Louisiana . . . . .	Oct. 1, 1881
26	Coontz, Robert Edward . . . . .	Missouri . . . . .	Sept. 22, 1881
35	Corpening, Charles Macon . . . . .	North Carolina . . . . .	June 11, 1881
39	Dashiell, Julius Mathias . . . . .	Maryland . . . . .	Oct. 1, 1881
*4	Dieffenbach, Albert Christian . . . . .	Pennsylvania . . . . .	Oct. 1, 1881
36	Dutton, Arthur Henry . . . . .	Indiana . . . . .	Sept. 21, 1881
24	Eberle, Edward Walter . . . . .	Arkansas . . . . .	Sept. 22, 1881
22	Evans, George Robert . . . . .	Massachusetts . . . . .	Oct. 1, 1881
*5	Fenton, Theodore Cornell . . . . .	Pennsylvania . . . . .	Oct. 1, 1881
25	Gilmer, William Wirt . . . . .	Virginia . . . . .	June 11, 1880
37	Howell, Robert Beecher . . . . .	Michigan . . . . .	Sept. 21, 1881
14	Joynes, Walker Waller . . . . .	Tennessee . . . . .	Oct. 1, 1881
11	Kittrell, James Wesson . . . . .	Mississippi . . . . .	Sept. 23, 1881
8	Kline, George Washington . . . . .	New Jersey . . . . .	Oct. 1, 1881
20	Lombard, Benjamin Mathews . . . . .	Iowa . . . . .	Sept. 21, 1881
23	McCormick, Charles Monod . . . . .	Virginia . . . . .	Oct. 1, 1881
15	McGuinness, John Patrick . . . . .	Idaho Territory . . . . .	Sept. 21, 1881
*2	McKay, William . . . . .	Pennsylvania . . . . .	Oct. 1, 1881
7	Miller, William Gardne . . . . .	Virginia . . . . .	Oct. 1, 1881
19	Nes, David Small . . . . .	Pennsylvania . . . . .	June 13, 1881
33	Pitner, Samuel Ellis . . . . .	Tennessee . . . . .	Sept. 22, 1881
31	Poe, Charles Carroll . . . . .	Pennsylvania . . . . .	Sept. 21, 1881
21	Russell, Robert Lee . . . . .	Georgia . . . . .	June 14, 1881
16	Rust, Armistead . . . . .	Virginia . . . . .	Oct. 1, 1881
29	Shindel, James Elliott . . . . .	Pennsylvania . . . . .	June 13, 1881
17	Slade, Thomas Bog . . . . .	Georgia . . . . .	June 11, 1881
10	Slocum, George Ralph . . . . .	Illinois . . . . .	Sept. 22, 1881
12	Stanworth, Charles Semmes . . . . .	Virginia . . . . .	Oct. 1, 1881
13	Straus, Joseph . . . . .	Virginia . . . . .	Oct. 1, 1881
30	Tarbox, Glennie . . . . .	South Carolina . . . . .	Sept. 22, 1881
*3	Tawrescy, John Godwin . . . . .	Delaware . . . . .	Oct. 1, 1881
*1	Taylor, David Watson . . . . .	Virginia . . . . .	Oct. 1, 1881
27	Tennant, George Boyce . . . . .	Michigan . . . . .	Sept. 22, 1881
9	Thompson, Alexander . . . . .	New York . . . . .	Sept. 23, 1881
38	Uberroth, Preston Henry . . . . .	Pennsylvania . . . . .	Oct. 1, 1881
28	Wright, Benjamin . . . . .	Tennessee . . . . .	Sept. 21, 1881

# FIRST CLASS.

21

## CADETS.

39 members.

Age at date of admission.		Order of merit in—							Number of demerits.	Sea-service in practice-ship.		Order of annual merit.
Years.	Months.	Mechanical drawing.	International law.	Calculus and mechanics.	Sound, light, and heat.	Electricity and magnetism.	Steam machinery, marine engines, and boilers.	Conduct.		Months.	Days.	
16	8	13	9	26	18	21	18	4	10	4	24	18
17	10	34	35	40	24	36	29	35	100	4	24	34
17	0	24	29	25	26	30	32	34	97	3	22	32
20	2	15	3	7	4	5	6	27	63	4	24	*6
17	3	32	13	35	36	25	32	1	4	4	18	26
16	5	39	15	29	39	33	35	36	119	6	27	35
19	11	25	37	37	29	37	40	40	142	4	24	39
18	9	1	8	2	6	3	5	16	29	4	24	*4
17	1	28	34	31	38	30	39	32	94	4	18	36
17	0	30	17	26	25	16	32	21	37	4	18	24
18	7	12	24	17	12	27	21	26	60	4	24	22
18	8	9	14	4	5	3	4	5	11	4	24	*5
17	0	22	32	29	35	35	25	2	8	8	17	25
17	8	37	21	35	33	26	35	38	136	4	18	37
19	1	8	4	24	14	20	12	6	12	4	24	14
17	6	17	6	11	9	9	19	17	31	4	18	11
17	9	19	28	9	10	11	9	14	24	4	24	8
14	9	23	11	12	20	10	26	33	96	4	18	20
19	6	1	37	34	28	30	22	11	20	4	24	23
17	0	25	25	14	13	7	13	22	41	4	18	15
16	9	1	1	3	2	2	3	8	13	4	24	*2
16	9	14	18	6	11	6	7	29	71	4	24	7
16	11	6	32	20	21	15	17	23	47	6	27	19
17	3	30	40	37	34	40	29	12	23	4	18	33
17	9	33	31	22	37	28	37	25	56	4	18	31
16	7	27	7	19	16	23	24	3	9	6	27	21
19	3	18	22	17	18	23	8	9	16	4	24	16
17	8	38	20	31	39	22	29	24	48	6	27	29
17	11	10	26	16	22	34	14	20	36	6	27	17
17	0	16	11	10	8	14	15	17	31	4	18	10
17	2	39	16	8	17	12	16	31	89	4	24	12
19	10	1	27	15	15	18	11	19	32	4	24	13
17	7	19	29	23	26	19	26	39	138	4	18	30
19	8	1	5	5	3	4	2	6	12	4	24	*3
17	7	7	2	1	1	1	1	10	18	4	24	*1
17	9	35	23	20	29	16	22	37	135	4	18	2
17	0	19	10	13	7	13	10	12	23	4	18	9
18	11	35	39	37	29	39	38	28	65	4	24	38
16	2	28	19	28	29	29	28	30	74	4	18	2

Order of annual merit.	Name.	State.	Date of admission.
14	Andrews, Philip . . . . .	New Jersey . . . . .	Sept. 28, 1882
24	Berry, John Giveen . . . . .	Maine . . . . .	June 17, 1882
25	Billings, Cornelius Canfield . . . . .	Vermont . . . . .	Sept. 28, 1882
7	Breed, George . . . . .	Kentucky . . . . .	June 17, 1882
8	Bullard, William Hannum Grubb . . . . .	Pennsylvania . . . . .	Sept. 28, 1882
11	Caldwell, William Howell . . . . .	Tennessee . . . . .	Sept. 28, 1882
17	Cooper, George Franklin . . . . .	Georgia . . . . .	June 17, 1882
19	DeKrafft, John Charles Philip . . . . .	Iowa . . . . .	Feb. 8, 1881
4	Dodd, Willard Louis . . . . .	Indiana . . . . .	Sept. 28, 1882
2	Edgar, Webster Appleton . . . . .	New York . . . . .	Sept. 22, 1881
8	Foust, William Harry . . . . .	Ohio . . . . .	Sept. 28, 1882
28	Griswold, John Noble . . . . .	Wisconsin . . . . .	Sept. 30, 1882
29	Hall, Clinton Lincoln . . . . .	Massachusetts . . . . .	Sept. 28, 1882
16	Hawk, George Frederick . . . . .	Pennsylvania . . . . .	June 17, 1882
6	Hines, Harold Kemble . . . . .	Kentucky . . . . .	Oct. 2, 1882
9	Jacobs, Benjamin . . . . .	Kansas . . . . .	June 11, 1881
18	Jenkins, Friend William . . . . .	Pennsylvania . . . . .	Sept. 28, 1882
23	Johnson, Edwin Van Dusen . . . . .	Indiana . . . . .	June 17, 1882
*1	Kress, Frederick Norton . . . . .	New York . . . . .	Oct. 3, 1882
15	Levis, Francis Adelbert . . . . .	New York . . . . .	June 17, 1882
27	McMillan, John Taylor . . . . .	California . . . . .	June 17, 1882
5	Oman, Joseph Wallace . . . . .	Pennsylvania . . . . .	June 17, 1882
21	Reilly, George Brinton . . . . .	Wisconsin . . . . .	Aug. 28, 1882
13	Rumsey, Harry Edgerton . . . . .	Wyoming . . . . .	Sept. 28, 1882
22	Stearns, John Warren . . . . .	New Hampshire . . . . .	Sept. 28, 1881
12	Strite, Samuel Melchoir . . . . .	Maryland . . . . .	Sept. 28, 1882
10	Tisdale, Ryland Dillard . . . . .	Kentucky . . . . .	Sept. 28, 1882
26	Winram, Samuel Black . . . . .	Missouri . . . . .	June 17, 1882
20	Witherspoon, Edward Taylor . . . . .	Connecticut . . . . .	Sept. 28, 1882
30	Young, David May . . . . .	Virginia . . . . .	Sept. 30, 1882

## CADETS.

30 members.

Age at date of admission.		Order of merit in—						Number of demerits.	Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	Trigonometry, analytical geometry, and descriptive geometry.	Chemistry.	English, history, and law.	French and Spanish.	Mechanical drawing.	Conduct.		Months.	Days.	
16	6	9	19	10	23	8	16	66	2	12	14
16	4	25	11	21	12	28	24	104	4	18	24
17	9	22	28	27	26	24	8	39	2	12	25
17	11	5	2	12	11	10	30	145	4	18	7
15	10	8	8	5	16	16	9	42	2	12	3
17	9	5	18	12	20	14	14	58	2	12	11
17	9	24	13	3	6	31	4	31	4	18	17
16	9	13	25	23	25	21	13	50	6	27	19
17	3	9	5	1	14	4	12	48	2	12	4
17	5	2	9	9	1	6	25	106	4	18	2
17	11	17	16	8	15	1	11	46	2	12	8
17	0	28	26	19	31	29	29	144	2	12	28
17	6	30	28	32	17	27	32	199	2	12	29
18	0	12	10	11	23	18	17	73	4	18	16
15	9	9	15	6	7	18	5	32	2	12	6
16	9	7	14	18	8	11	7	37	6	27	9
17	3	16	1	29	10	22	31	146	2	12	18
16	9	8	19	19	29	25	28	123	4	18	23
15	9	1	5	2	3	2	23	94	2	12	*1
17	2	20	16	17	22	2	1	9	4	18	15
15	3	18	22	31	28	29	27	112	4	18	27
17	10	15	4	7	12	9	2	12		18	5
17	11	21	28	16	19	18	6	33	2	12	21
16	7	13	5	14	26	5	22	90	2	12	13
15	3	29	27	26	3	15	26	109	4	18	22
16	4	4	11	23	18	23	9	42	2	12	12
16	8	19	3	14	2	18	15	64	2	12	10
17	8	23	23	28	30	16	20	82	4	18	26
17	10	26	21	4	9	26	19	81	2	12	20
16	6	27	32	22	5	32	17	73	2	12	30

Order of annual merit.	Name.	State.	Date of admission.
56	Allen, Henry Asa . . . . .	Wisconsin . . . . .	Sept. 4, 1883
58	Allen, Walter Raymond . . . . .	New York . . . . .	Sept. 6, 1883
45	Bachman, Morris Piper . . . . .	Iowa . . . . .	Sept. 4, 1883
68	Ballinger, James Grey . . . . .	Kansas . . . . .	Sept. 6, 1883
9	Bertollette, Levi Calvin . . . . .	Delaware . . . . .	Sept. 4, 1883
7	Blackwood, Norman Jerome . . . . .	Pennsylvania . . . . .	May 17, 1883
39	Blue, Victor . . . . .	South Carolina . . . . .	Sept. 6, 1883
62	Boughter, Francis . . . . .	Pennsylvania . . . . .	May 17, 1883
52	Bower, James McKesson . . . . .	Illinois . . . . .	Sept. 15, 1883
29	Bristol, Mark Lambert . . . . .	New Jersey . . . . .	May 19, 1883
37	Brown, Ford Hopkins . . . . .	Iowa . . . . .	May 17, 1883
55	Bruns, William Frederick . . . . .	Kentucky . . . . .	Oct. 3, 1883
*1	Bryan, Henry Francis . . . . .	Ohio . . . . .	May 2, 1883
32	Burke, Walter Safford . . . . .	Illinois . . . . .	May 17, 1883
78	Burrage, Guy Hamilton . . . . .	Massachusetts . . . . .	Sept. 6, 1883
73	Callaghan, William Charles . . . . .	Ohio . . . . .	May 17, 1883
74	Carnahan, John Sylvanus . . . . .	Ohio . . . . .	Sept. 27, 1883
47	Cash, Charles Frederick . . . . .	Wisconsin . . . . .	May 17, 1883
13	Childs, Herbert Leslie . . . . .	Massachusetts . . . . .	May 17, 1883
43	Churchill, Creighton . . . . .	Missouri . . . . .	Sept. 4, 1883
10	Cloke, William Snelling . . . . .	New Jersey . . . . .	May 17, 1883
59	Cochran, Claude Stanley . . . . .	Ohio . . . . .	Sept. 4, 1883
38	Cole, Eli Kelley . . . . .	New York . . . . .	Sept. 4, 1883
53	Coleman, Ross . . . . .	California . . . . .	May 17, 1883
57	Craig, Charles Curtis . . . . .	Illinois . . . . .	May 17, 1883
65	Craig, Colin Samuel . . . . .	Iowa . . . . .	May 17, 1883
14	Darby, Samuel Edgar . . . . .	Arkansas . . . . .	Sept. 28, 1882
27	Davis, Archibald Hilliard . . . . .	North Carolina . . . . .	May 17, 1883
15	Decker, Benton Clark . . . . .	Illinois . . . . .	May 17, 1883
41	Draper, Herbert Lemuel . . . . .	Kansas . . . . .	Sept. 6, 1883
11	Durell, Edward Hovey . . . . .	Massachusetts . . . . .	May 17, 1883
46	Edmonds, Samuel Preston . . . . .	Missouri . . . . .	May 19, 1883
67	Eyre, George Washington . . . . .	Pennsylvania . . . . .	Sept. 4, 1883
71	Eyre, William Preston . . . . .	Pennsylvania . . . . .	May 17, 1883
16	Gueydan, Henry Louis . . . . .	Texas . . . . .	Sept. 4, 1883
*2	Hibbs, Frank Warren . . . . .	Minnesota . . . . .	Sept. 4, 1883
40	Hill, Charles Sanderson . . . . .	Arizona Territory . . . . .	Sept. 6, 1883
80	Hudson, Charles Edward . . . . .	Arkansas . . . . .	Sept. 4, 1883
*5	Hurlbut, Samuel Ray . . . . .	Connecticut . . . . .	Sept. 4, 1883
49	Jackson, Richard Harrison . . . . .	Alabama . . . . .	June 4, 1883
72	Jewett, Thomas Scovell . . . . .	Kansas . . . . .	May 17, 1883

## CADETS.

80 members.

Age at date of admission.		Order of merit in—					Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	English and history.	Algebra and geometry.	French and Spanish.	Conduct.	Number of demerits.	Months.	Days.	
16	7	42	55	72	17	24	2	12	56
17	10	58	29	65	69	110	2	12	58
16	4	52	58	40	10	16	2	12	45
16	2	60	60	48	78	144	2	12	68
17	2	37	6	14	41	53	2	12	6
17	4	6	31	4	26	35	4	24	7
17	9	50	46	30	6	14	2	12	39
14	4	58	42	67	67	105	4	24	63
17	6	46	67	46	52	63	2	12	52
15	1	19	24	25	75	135	4	24	29
16	6	81	2	50	3	12	4	24	37
17	5	35	55	68	45	56	2	12	55
18	0	1	3	1	47	58	4	24	*1
16	4	30	14	54	6	14	4	24	32
16	2	78	42	85	9	15	2	12	78
14	8	78	69	64	81	159	4	24	73
17	9	81	79	80	63	97	2	12	74
16	10	55	45	45	58	76	4	24	47
15	4	3	40	14	50	62	4	24	13
17	0	52	63	23	41	53	2	12	43
17	3	22	14	9	62	94	4	24	10
17	10	64	34	77	23	31	2	12	59
16	0	24	21	63	39	51	2	12	38
15	10	39	47	70	37	46	3	25	53
16	11	50	48	59	49	61	4	24	57
17	1	62	60	60	52	63	4	24	65
15	8	44	16	5	56	71	4	24	14
16	8	13	34	26	33	41	4	9	27
15	4	17	9	40	17	24	4	24	15
16	8	9	63	60	27	36	2	12	41
17	3	11	27	14	33	41	4	24	11
15	9	63	20	52	50	62	4	24	46
17	11	71	39	78	48	59	2	12	67
15	10	65	72	60	71	114	4	24	71
15	8	56	8	1	77	141	2	12	16
15	10	13	7	7	30	39	2	12	*2
16	2	42	74	22	43	54	2	12	40
16	10	78	74	84	37	46	2	12	80
16	10	20	1	20	59	79	2	12	*5
17	0	44	77	43	19	25	4	24	49
16	9	66	70	79	72	116	4	24	72

Order of annual merit.	Name.	State.	Date of admission.
24	Johnston, Charles Ernest . . . . .	Ohio . . . . .	May 17, 1883
50	Kalbach, Lewis Alvin . . . . .	Pennsylvania . . . . .	Sept. 26, 1883
36	La Tourette, William Sherman . . . . .	Ohio . . . . .	Oct. 21, 1882
8	Logan, George Wood . . . . .	Ohio . . . . .	Sept. 3, 1883
24	Long, Andrew Theodore . . . . .	North Carolina . . . . .	May 17, 1883
*3	McCully, Newton Alexander, Jr. . . . .	South Carolina . . . . .	May 19, 1883
28	McMillan, William Graham . . . . .	North Carolina . . . . .	Sept. 4, 1883
*4	Marriott, John Jordan Crittenden . . . . .	At large . . . . .	Sept. 26, 1883
51	Martin, John Joseph . . . . .	New York . . . . .	Sept. 4, 1883
6	Moale, Edward, Jr. . . . .	Montana . . . . .	June 17, 1882
76	Moore, Fred. Gordon . . . . .	Kansas . . . . .	May 17, 1883
42	Moseley, William Branch . . . . .	Texas . . . . .	Sept. 6, 1883
33	Murray, William Joseph . . . . .	New York . . . . .	June 17, 1882
44	O Halloran, Thomas Michael . . . . .	Pennsylvania . . . . .	May 17, 1883
61	O'Neill, Miles Gaylord . . . . .	Indiana . . . . .	Sept. 28, 1883
29	Peckham, Henry Lincoln . . . . .	Rhode Island . . . . .	May 17, 1883
26	Pigott, Michael Royston . . . . .	Massachusetts . . . . .	Sept. 20, 1883
66	Rodgers, Henry Croghan . . . . .	At large . . . . .	May 19, 1883
60	Ricketts, Joseph Vincent . . . . .	Ohio . . . . .	Sept. 6, 1883
69	Russell, Frank Mead . . . . .	Pennsylvania . . . . .	May 19, 1883
34	Salter, Jasper Colton . . . . .	New York . . . . .	Sept. 28, 1882
48	Scales, Archibald Henderson . . . . .	North Carolina . . . . .	May 19, 1883
63	Sims, James Whittle . . . . .	Virginia . . . . .	Sept. 4, 1883
23	Snow, Elliot . . . . .	Utah Territory . . . . .	Sept. 4, 1883
19	Steber, Benjamin . . . . .	New York . . . . .	May 17, 1883
12	Stearns, Ben Wade . . . . .	Iowa . . . . .	May 17, 1883
21	Stocker, Robert . . . . .	Minnesota . . . . .	Sept. 4, 1883
35	Stone, Clarence Morton . . . . .	Indiana . . . . .	Sept. 25, 1883
74	Straub, August Adolph . . . . .	Pennsylvania . . . . .	Sept. 6, 1883
54	Swanstrom, Frederick Emil . . . . .	Minnesota . . . . .	Sept. 6, 1883
81	Ubedell, John Arnold . . . . .	Missouri . . . . .	Sept. 6, 1883
18	Washington, Thomas . . . . .	North Carolina . . . . .	May 17, 1883
17	Waters, Glen . . . . .	Georgia . . . . .	May 17, 1883
20	Wells, Benjamin Warner, Jr. . . . .	Illinois . . . . .	May 17, 1883
64	Welsh, Joseph John . . . . .	Ohio . . . . .	May 19, 1883
79	Wilmer, William Ringgold . . . . .	Maryland . . . . .	May 17, 1883
22	Williams, William Herschel . . . . .	Alabama . . . . .	May 17, 1883
70	Wiley, Henry Ariosto . . . . .	Texas . . . . .	May 17, 1883
77	Young, Louis le Sasser . . . . .	Louisiana . . . . .	Sept. 6, 1883

# THIRD CLASS.

27

CADETS.

80 members.

Age at date of admission.		Order of merit in—					Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	English and history.	Algebra and geometry.	French and Spanish.	Conduct.	Number of demerits.	Months.	Days.	
17	2	33	38	18	11	20	4	24	24
16	9	61	58	36	8	12	3	12	50
17	5	40	31	38	31	40	4	24	38
14	10	21	24	3	22	29	2	12	8
17	1	18	33	26	11	20	4	24	24
15	11	5	10	12	11	20	4	24	*3
17	6	24	30	28	1	8	2	12	38
16	6	8	3	13	64	102	2	12	*4
17	7	54	24	56	74	131	2	12	51
15	8	17	11	8	55	68	7	0	6
17	6	77	73	31	33	187	4	24	76
16	9	37	65	40	21	28	2	12	42
15	3	33	18	35	65	103	4	18	33
16	4	43	53	44	35	45	4	24	44
16	5	56	49	75	25	33	2	12	61
17	10	28	21	29	35	45	4	24	29
17	7	9	51	6	80	155	2	12	26
16	6	47	30	58	68	108	4	24	66
16	11	67	60	43	23	31	2	12	60
17	4	67	71	63	28	38	4	24	69
15	7	36	21	38	57	75	4	24	34
15	1	27	51	54	60	31	4	24	43
16	10	73	57	52	14	21	2	12	63
17	2	22	17	30	20	27	2	12	23
17	6	3	19	33	65	103	4	24	19
15	0	30	5	30	6	14	4	24	12
17	7	40	12	23	15	23	2	12	21
16	11	49	13	36	72	116	2	12	35
15	7	76	76	73	34	205	2	12	74
16	10	24	53	73	54	64	2	12	54
16	10	30	65	10	44	55	2	12	31
18	0	7	28	34	3	12	4	24	18
14	11	2	40	21	32	163	4	24	17
15	4	16	44	19	15	23	4	24	20
16	9	70	34	70	61	92	2	12	64
16	1	34	77	76	28	38	4	24	79
16	7	28	37	17	2	10	4	24	22
16	3	69	63	69	31	40	4	24	70
17	10	71	32	47	39	51	2	12	77



## FOURTH CLASS.

## NAVAL CADETS.

## Fourth Class—90 members.

Name.	State.	Date of admission.	Age at date of admission.		Sea-service in practice-ships.	
			Years.	Months.	Months.	Days.
Aiken, Samuel James . .	Tennessee . .	Sept. 4, 1884	17	7		
Alexander, James Nelson . .	Missouri . .	Sept. 6, 1884	17	2		
Anderson, Louis Joseph . .	Georgia . .	May 27, 1884	17	10	2	12
Bailey, Ralph . . . .	Arkansas . .	Sept. 5, 1884	16	11		
Bassett, Frederic Brewster, jr.	New York . .	May 19, 1884	15	4	2	12
Baya, William Peter . .	Florida . .	May 20, 1884	15	8	2	12
Beach, Edward Latimer . .	Minnesota . .	May 20, 1884	16	10	2	12
Behse, Herman Henry . .	New York . .	May 21, 1884	17	4	2	12
Beckwith, Henry . . . .	New York . .	Sept. 4, 1884	17	7		
Benham, Henry Kennedy . .	New York . .	May 19, 1884	16	9	2	12
Beawick, Delworth Wilson . .	Michigan . .	May 20, 1884	15	8	2	12
Bischof, George Christian Wil- liam.	Nebraska . .	Sept. 5, 1884	17	10		
Brand, Charles Augustine . .	Connecticut . .	May 20, 1884	16	0	2	12
Brittain, Carlo Bonaparte . .	Kentucky . .	May 19, 1884	17	4	2	12
Campbell, Archie Perrin . .	Missouri . .	May 20, 1884	16	0	2	12
Carden, Godfrey Lynet . .	California . .	May 19, 1884	17	9	2	12
Carpenter, Henry Wilson . .	At large . .	April 24, 1884	17	11	2	12
Chandler, Lloyd Horwitz . .	New Hampshire	Sept. 4, 1884	15	0		
Clement, Edward Edmund . .	Kentucky . .	Sept. 29, 1884	16	7		
Close, Hiram Benjamin . .	Texas . .	May 22, 1884	17	3	2	12
Coe, Robert . . . .	New York . .	Sept. 5, 1884	16	1		
Cramer, Stuart Warren . .	Illinois . .	Sept. 4, 1884	16	5		
Croze, William Michael . .	Indiana . .	May 19, 1884	17	3	2	12
Dye, Van Buren . . . .	Arkansas . .	May 19, 1884	16	11	2	12
Fairfax, Franklin Ernest . .	New York . .	Sept. 6, 1884	17	10		
Fitch, Frederic . . . .	Colorado . .	Sept. 4, 1884	17	2		
Fitzgerald, George William . .	Illinois . .	Sept. 4, 1884	17	6		
Franklin, William Buell . .	Maryland . .	May 20, 1884	16	3	2	12
Frick, Oliver O'Donnell . .	Maryland . .	May 20, 1884	15	3	2	12
Gates, Herbert Grenville . .	Michigan . .	Sept. 4, 1884	17	4		
Gillespie, William Thomas . .	Virginia . .	Sept. 5, 1884	15	5		
Gould, William Henry . .	Ohio . .	Sept. 4, 1884	16	3		
Hagood, Robert William . .	Alabama . .	Sept. 6, 1884	17	7		
Hartrath, Armin . . . .	Michigan . .	Sept. 4, 1884	16	0		
Harris, Jephtha Vining . .	Florida . .	May 20, 1884	17	11	2	12
Hayward, George North . .	New York . .	May 19, 1884	17	11	2	12
Hicks, Nathan Woodhull . .	Minnesota . .	May 19, 1884	16	8	2	12
Hill, Alfred Newcomb . .	Illinois . .	May 20, 1884	17	5	2	12
Hubbard, John Flavel . .	New York . .	Sept. 5, 1884	17	2		
Hughes, Charles Frederick . .	Maine . .	Sept. 6, 1884	17	10		
Hull, Robert Carter . . . .	At large . .	May 20, 1884	14	7	2	12
Howze, James Adrian . . . .	Mississippi . .	Sept. 6, 1884	17	3		
Ingate, Clarence Louis Adrian	Alabama . .	May 20, 1884	16	4	2	12
Jones, Roger ap Catesby . .	Alabama . .	Sept. 5, 1884	17	3		
Kane, Theodore Porter . . . .	New York . .	May 19, 1884	15	2	2	12
Kemp, Henry Greenway . .	Virginia . .	June 2, 1884	16	8	2	12
Kierulff, Thomas Crindell . .	Iowa . .	Sept. 18, 1884	16	10		
Claude Hamilton . . . .	Virginia . .	Sept. 28, 1884	16	3		
ild, Jacob Louis . . . .	Wisconsin . .	May 20, 1884	15	5	2	12
ger, William Daniel . . . .	Pennsylvania .	May 20, 1884	15	9	2	12

## NAVAL CADETS.

*Fourth class—90 members—Continued.*

Name.	State.	Date of admission.	Age at date of admission.		Sea-service in practice-ships.	
			Years.	Months.	Months.	Days.
Koester, Oscar William . .	Pennsylvania . .	April 5, 1884	17	10	2	12
Lafferty, John Lovett . .	California . .	Sept. 6, 1884	17	7		
Lange, Hermann Diedrick . .	New York . .	Sept. 5, 1884	17	7		
Lejeune, John Archer . .	Louisiana . .	May 19, 1884	17	4	2	12
Loyal, George . . . .	Virginia . .	Sept. 24, 1884	16	6		
Marble, Frank . . . .	New York . .	Sept. 4, 1884	17	0		
Melson, Edmund Preston . .	Missouri . .	May 20, 1884	17	7	2	12
Miller, Marcus Lyon . .	Massachusetts . .	Sept. 4, 1884	17	11		
Morgan, Casey Bruce . .	Mississippi . .	Sept. 4, 1884	16	10		
Monroe, Moses Daniel . .	New York . .	May 19, 1884	17	7	2	12
Morris, Joseph Ralston . .	Illinois . .	May 19, 1884	17	5	2	12
Mowbray, Louis . . . .	New York . .	May 21, 1884	17	2	2	12
Moses, Laurence Harry . .	Louisiana . .	Sept. 8, 1884	14	1		
Murdough, Frank Orin . .	Pennsylvania . .	May 20, 1884	16	5	2	12
Murphy, Ignatius Ingoldsby . .	New York . .	Sept. 8, 1884	17	4		
Norton, Albert Leland . .	Ohio . .	May 23, 1884	17	11	2	12
Quinby, Edwin Rufus . .	New York . .	May 22, 1884	14	9	2	12
Reid, James Henry . . .	Virginia . .	Sept. 4, 1884	14	9		
Riley, James Franklin . .	Nebraska . .	April 24, 1884	17	11	2	12
Robertson, Ashley Herman . .	Illinois . .	Sept. 4, 1884	16	8		
Robison, Samuel Shelburn . .	Pennsylvania . .	Sept. 4, 1884	17	3		
Rowan, Willie McDaniel . .	West Virginia . .	May 19, 1884	17	8	2	12
Selfridge, George Shepley . .	At large . .	Sept. 5, 1884	15	11		
Scott, James Hutchinson . .	At large . .	Oct. 1, 1884	17	7		
Shaffer, Paul Clarke . . .	Ohio . .	May 20, 1884	15	5	2	12
Smith, Richard Montgomery . .	Wisconsin . .	April 4, 1884	17	10	2	12
Smith, Ernest Frederick . .	Illinois . .	Sept. 5, 1884	16	0		
Smock, Marcus Frederic . .	South Carolina . .	May 19, 1884	17	4	2	12
Stafford, Leroy Augustus . .	Louisiana . .	Sept. 15, 1884	14	9		
Stickney, Horman Osman . .	Kentucky . .	Sept. 4, 1884	16	8		
Taylor, Henry, Jr. . . .	At large . .	May 27, 1884	16	2	2	12
Tutein, Constantine Diedrick . .	Massachusetts . .	Sept. 6, 1884	16	2		
Van Allen, John McEwen . .	New York . .	June 12, 1884	17	11	2	12
Van Antwerp, William Clarkson	Iowa . .	May 19, 1884	16	10	2	12
Vansant, William Newton . .	Pennsylvania . .	Sept. 4, 1884	15	6		
Wedderburn, John . . . .	Illinois . .	Sept. 5, 1884	16	0		
West, Ernest Edward . . .	Georgia . .	May 23, 1884	16	10	2	12
Wilbur, Curtis Dwight . .	Dakota . .	May 19, 1884	17	5	2	12
Williams, Chester Bond . .	Iowa . .	May 23, 1884	17	10	2	12
Williams, George Washington . .	South Carolina . .	Sept. 6, 1884	15	7		

## SUMMARY.

First class . . . . .	39 members.
Second class . . . . .	30 members.
Third class . . . . .	80 members.
Fourth class . . . . .	90 members.
Total . . . . .	239

## RESIGNATIONS AND DISMISSALS.

*January 2 to October 7, 1884.*

### RESIGNED.

Naval Cadet Henry E. Brucks		Jan. 2, 1884
Naval Cadet John E. Ethell		Jan. 17, 1884
Naval Cadet John L. Wethered		Jan. 17, 1884
Naval Cadet Alphens L. Porter		Jan. 18, 1884
Naval Cadet Oliver O'D. Frick		Jan. 19, 1884
Naval Cadet Walter Canaday		Jan. 22, 1884
Naval Cadet William D. Kochersperger		Jan. 28, 1884
Naval Cadet James N. Alexander		Jan. 30, 1884
Naval Cadet Louis D. Ferriss		Feb. 2, 1884
Naval Cadet Harry L. Boyd		Feb. 4, 1884
Naval Cadet Richard T. Shipley		Feb. 4, 1884
Naval Cadet Delworth W. Beswick		Feb. 4, 1884
Naval Cadet William B. Bonham		Feb. 4, 1884
Naval Cadet Archie P. Campbell		Feb. 4, 1884
Naval Cadet Henry W. Carpenter		Feb. 4, 1884
Naval Cadet Henry H. Davis		Feb. 4, 1884
Naval Cadet Erle Edmundson		Feb. 4, 1884
Naval Cadet George W. Galloway		Feb. 4, 1884
Naval Cadet Robert C. Hull		Feb. 4, 1884
Naval Cadet Frank Kelly		Feb. 4, 1884
Naval Cadet Oscar W. Koester		Feb. 4, 1884
Naval Cadet Edward P. Morgan		Feb. 4, 1884
Naval Cadet William T. Peacock		Feb. 4, 1884
Naval Cadet Franklin Potter		Feb. 4, 1884
Naval Cadet William H. Seymour		Feb. 4, 1884
Naval Cadet Edwin M. Taliaferro		Feb. 4, 1884
Naval Cadet James Van de Wyngaard		Feb. 4, 1884
Naval Cadet Harry Friedlander		Feb. 5, 1884
Naval Cadet Godfrey L. Carden		Feb. 5, 1884
Naval Cadet Louis Mowbray		Feb. 5, 1884
Naval Cadet George E. Lynott		Feb. 28, 1884
Naval Cadet Valentine H. Muller		Mar. 20, 1884
Naval Cadet William C. Van Antwerp		Apr. 8, 1884
Naval Cadet Alfred N. Hill		Apr. 10, 1884
Naval Cadet Joseph A. Guthrie		Apr. 15, 1884
Naval Cadet William T. Gillespie		Apr. 17, 1884
Naval Cadet James L. Jacobs		May 2, 1884
Naval Cadet Charles K. Luzenberg	May 1, 1884	June 9, 1884
Naval Cadet Chester L. Caldwell	Sept. 6, 1884	June 9, 1884
Naval Cadet Louis E. W.	Alabama May 20, 1884	June 10, 1884
Naval Cadet George W.	Alabama Sept. 5, 1884	June 11, 1884
Naval Cadet Frank	New York May 19, 1884	June 13, 1884
Naval Cadet Char	Virginia June 2, 1884	June 13, 1884
Naval Cadet Pie	Iowa Sept. 18, 1884	Aug. 6, 1884
30	Alton Virginia Sept. 29	
sb Louis	Wisconsin May 2	
nersperger, William Daniel	Pennsylvania May 2	

## 31

DROPPED.	
Naval Cadet Harry B. Mulford . . . . .	Feb. 5, 1884
Naval Cadet William E. Tolin . . . . .	Feb. 5, 1884
Naval Cadet Sam W. Irwin . . . . .	Feb. 18, 1884
Naval Cadet Clarence H. Mathews . . . . .	Mar. 25, 1884
Naval Cadet Willis B. Day . . . . .	July 10, 1884
Naval Cadet William S. Hollis . . . . .	July 10, 1884
Naval Cadet John C. Leonard . . . . .	*Sept. 26, 1884
Naval Cadet Andrew McAllister . . . . .	*Sept. 26, 1884
Naval Cadet Ledru R. Savage . . . . .	Oct. 1, 1884
Naval Cadet Edward S. Hawke . . . . .	Oct. 1, 1884
Naval Cadet Harry W. McGee . . . . .	Oct. 4, 1884

aval Cadet Leon H. Jastremski . . . . .	Feb. 28, 1884
aval Cadet John W. Maxcy . . . . .	Feb. 28, 1884
aval Cadet Frederic Parker . . . . .	Feb. 28, 1884

DIED.	
Adet Frederick S. Strang	Oct. 3, 1884
et Ambrose R. W. Cohen (at Augusta, Ga.)	Oct. 7, 1884

<sup>†</sup> To take effect November 18, 1884.

# RESIGNATIONS AND DISMISSALS.

January 2 to October 7, 1884.

## RESIGNED.

Naval Cadet Henry E. Brucks		Jan. 2, 1884
Naval Cadet John E. Ethell		Jan. 17, 1884
Naval Cadet John L. Wethered		Jan. 17, 1884
Naval Cadet Alphens L. Porter		Jan. 18, 1884
Naval Cadet Oliver O'D. Frick		Jan. 19, 1884
Naval Cadet Walter Canaday		Jan. 22, 1884
Naval Cadet William D. Koehersperger		Jan. 28, 1884
Naval Cadet James N. Alexander		Jan. 30, 1884
Naval Cadet Louis D. Ferriss		Feb. 2, 1884
Naval Cadet Harry L. Boyd		Feb. 4, 1884
Naval Cadet Richard T. Shipley		Feb. 4, 1884
Naval Cadet Delworth W. Beswick		Feb. 4, 1884
Naval Cadet William B. Bonham		Feb. 4, 1884
Naval Cadet Archie P. Campbell		Feb. 4, 1884
Naval Cadet Henry W. Carpenter		Feb. 4, 1884
Naval Cadet Henry H. Davis		Feb. 4, 1884
Naval Cadet Erle Edmundson		Feb. 4, 1884
Naval Cadet George W. Galloway		Feb. 4, 1884
Naval Cadet Robert C. Hull		Feb. 4, 1884
Naval Cadet Frank Kelly		Feb. 4, 1884
Naval Cadet Oscar W. Koester		Feb. 4, 1884
Naval Cadet Edward P. Morgan		Feb. 4, 1884
Naval Cadet William T. Peacock		Feb. 4, 1884
Naval Cadet Franklin Potter		Feb. 4, 1884
Naval Cadet William H. Seymour		Feb. 4, 1884
Naval Cadet Edwin M. Taliaferro		Feb. 4, 1884
Naval Cadet James Van de Wyngaard		Feb. 4, 1884
Naval Cadet Harry Friedlander		Feb. 5, 1884
Naval Cadet Godfrey L. Carden		Feb. 5, 1884
Naval Cadet Louis Mowbray		Feb. 5, 1884
Naval Cadet George E. Lynott		Feb. 28, 1884
Naval Cadet Valentine H. Muller		Mar. 20, 1884
Naval Cadet William C. Van Antwerp		Apr. 8, 1884
Naval Cadet Alfred N. Hill		Apr. 10, 1884
Naval Cadet Joseph A. Guthrie		Apr. 15, 1884
Naval Cadet William T. Gillespie		Apr. 17, 1884
Naval Cadet James L. Jacobs		May 2, 1884
Naval Cadet Charles K. Luzenberg	May 1, 1884	June 9, 1884
Naval Cadet Chester L. Caldwell	Sept. 6, 1884	June 9, 1884
Naval Cadet Louis E. W.	Alabama May 20, 1884	June 10, 1884
Naval Cadet George W.	Alabama Sept. 5, 1884	June 11, 1884
Naval Cadet Frank	New York May 19, 1884	June 13, 1884
Naval Cadet Char	Virginia June 2, 1884	June 13, 1884
Naval Cadet Pie	Iowa Sept. 18, 1884	Aug. 6, 1884
30 alton	Virginia Sept. 20, 1884	
ab Louis	Wisconsin May 2	
Wethersperger, William Daniel	Pennsylvania May 2	

# RESIGNATIONS AND DISMISSALS.

31

Naval Cadet Henry K. McCay . . . . .	Aug. 6, 1884
Naval Cadet John R. Harrell . . . . .	Aug. 7, 1884
Naval Cadet R. O. Crisp . . . . .	†Aug. 21, 1884
Naval Cadet Thomas H. Leary . . . . .	Aug. 23, 1884
Naval Cadet Frederic E. Curtis . . . . .	Aug. 24, 1884

## DROPPED.

Naval Cadet Harry B. Mulford . . . . .	Feb. 5, 1884
Naval Cadet William E. Tolin . . . . .	Feb. 5, 1884
Naval Cadet Sam W. Irwin . . . . .	Feb. 18, 1884
Naval Cadet Clarence H. Mathews . . . . .	Mar. 25, 1884
Naval Cadet Willis B. Day . . . . .	July 10, 1884
Naval Cadet William S. Hollis . . . . .	July 10, 1884
Naval Cadet John C. Leonard . . . . .	*Sept. 26, 1884
Naval Cadet Andrew McAllister . . . . .	*Sept. 26, 1884
Naval Cadet Ledru R. Savage . . . . .	Oct. 1, 1884
Naval Cadet Edward S. Hawke . . . . .	Oct. 1, 1884
Naval Cadet Harry W. McGee . . . . .	Oct. 4, 1884

## DISMISSED.

Naval Cadet Leon H. Jastremski . . . . .	Feb. 28, 1884
Naval Cadet John W. Maxcy . . . . .	Feb. 28, 1884
Naval Cadet Frederic Parker . . . . .	Feb. 28, 1884

## DIED.

Naval Cadet Frederick S. Strang . . . . .	Oct. 3, 1884
Naval Cadet Ambrose R. W. Cohen (at Augusta, Ga.) . . . . .	Oct. 7, 1884

\* To take effect December 31, 1884.

† To take effect November 18, 1884.

all  
of  
F. Fitzgerald  
D. Webster  
Les T. Phillips  
Fre O. Keithholz

## MERIT-ROLLS FOR 1883-84.

*Merit-rolls, made out annually for each class, show the proficiency of the cadets in each branch of study. The numbers given in the table, page 58, showing the relative weight of the different branches, are used as coefficients; the final mark in each branch (on a scale of 4) being multiplied by the number assigned to that branch. The sum of the products, after adding multiple for conduct, is the final mark of the cadet for the year.*

*In the case of cadets who take an advanced course in any branch, the final mark in that branch is determined by adding to the final mark received in the required course one-fifth of the amount by which the final mark in the advanced course exceeds 2.50.*

*In the graduating merit-roll, the final mark for the course is determined by the sum of the yearly marks.*

*"Cadets who attain 85 per cent. of the multiple in any year shall be distinguished by a star affixed to their names on the merit-rolls."—(Regulations U. S. Naval Academy, § 150.)*

*The diplomas of cadets whose final marks on the graduating merit-roll are not less than 85 per cent. of the maximum, read "passed with distinction;" those whose final marks are between 74 per cent. and 85 per cent. of the maximum, read "passed with credit;" and those whose final marks are between 62½ per cent. and 74 per cent., read "passed."*

*Cadets whose names are marked thus (†) were found deficient, but were allowed to continue in their classes on condition of passing at a re-examination.*

*Those marked (\$) were found deficient, and recommended to be dropped.*

CLASS OF 1884.

33

Order of merit.	Name.	Sea and naval tactics.	Gunnery.	Steam engineering.	Navigation.	French or Spanish.	Cruise reports, journals, and testimonials.	Aggregate for examination.	General aggregate for four years.	Final aggregate.	Assignment.
		60	48	45	48	24	12	240	760	1000	
*1	Maxima . . . . .										
*2	Robert W. Gatewood . . . . .	44.40	41.40	47.04	44.40	21.90	11.49	210.63	704.19	914.82	Honorably discharged. <sup>a</sup>
3	Emil Thelss . . . . .	40.50	38.88	42.00	38.76	23.70	9.45	193.29	710.73	904.02	Assistant engineer.
4	William H. P. Creighton . . . . .	35.55	32.16	40.80	40.56	21.00	9.60	179.87	665.93	845.00	Assistant engineer.
5	Spencer S. Wood . . . . .	43.80	44.76	30.72	43.80	17.40	11.40	197.88	644.54	842.42	Ensign (junior grade).
6	William B. Fletcher . . . . .	53.25	44.28	34.68	45.86	17.40	11.04	206.01	627.19	833.20	Ensign (junior grade).
7	James H. Fitts . . . . .	40.50	39.48	40.56	39.00	20.70	9.45	189.69	638.43	828.12	Assistant engineer.
8	Edson W. Sutphen . . . . .	45.75	44.40	30.12	44.88	17.40	11.49	194.04	616.00	810.04	Ensign (junior grade).
9	William H. Chambers . . . . .	39.15	33.96	30.84	30.96	15.30	9.84	160.05	641.76	801.81	Assistant engineer.
10	Jacob G. McWhorter . . . . .	52.95	43.92	35.16	39.96	18.00	10.20	290.19	596.24	786.43	Second lieutenant, Marine Corps.
11	Marbury Johnston . . . . .	44.40	40.56	33.24	43.56	19.50	8.55	189.81	594.25	784.06	Ensign (junior grade.)
12	Charles E. Rommel . . . . .	30.00	34.92	36.00	35.16	17.70	7.20	160.98	613.21	774.19	Second lieutenant, Marine Corps. <sup>b</sup>
13	William B. Whittelsey . . . . .	42.60	36.36	40.20	40.20	18.90	10.74	173.80	586.30	765.10	Ensign (junior grade).
14	Joseph L. Jayne . . . . .	46.20	42.00	34.44	37.80	16.50	9.30	186.24	577.12	763.36	Ensign (junior grade).
15	Finley A. McNutt . . . . .	47.40	32.76	30.12	44.16	19.50	8.25	182.19	576.59	758.78	Ensign (junior grade).
16	James G. Doyle . . . . .	45.30	32.88	31.08	41.76	15.30	9.75	176.07	581.38	757.45	Ensign (junior grade).
17	Lorenzo Sempie . . . . .	49.05	36.36	30.00	42.96	20.10	10.20	188.67	562.07	750.74	Ensign (junior grade).
18	Ledru R. Savage . . . . .	43.95	37.80	42.36	42.36	15.60	10.20	169.71	578.41	748.12	<sup>c</sup>
19	Thomas C. Prince . . . . .	45.75	27.48	32.04	41.76	18.60	10.20	175.83	570.79	748.62	Second lieutenant, Marine Corps.
20	John J. Blandin . . . . .	35.25	35.88	30.36	42.00	20.40	9.99	173.88	566.27	740.15	Ensign (junior grade).
21	Albert L. Key . . . . .	48.80	40.80	22.56	42.60	17.70	9.60	181.86	557.97	739.53	Ensign (junior grade).
22	Arthur H. Clarke . . . . .	34.35	30.24	31.92	35.40	18.00	9.09	159.00	577.13	736.13	Second lieutenant, Marine Corps.

<sup>a</sup>. Physically disqualified for the naval service.

<sup>b</sup>. Transferred to Engineer Corps.

<sup>c</sup>. At his own request.



*Merit-roll of the graduating class of naval cadets at the conclusion of the six years' course, June, 1884—Continued..*

Order of merit.	Name.	Sea and naval tactics.	Gunnery.	Steam engineering.	Navigation.	French or Spanish.	Cruise reports, journals, and testimonials.	Aggregate for examination.	General aggregate for four years.	Final aggregate.	Assignment.
	Maxima . . . . .	60	48	45	48	24	12	240	760	1000	
22	William L. Howard . . . . .	42.45	27.48	30.96	41.40	19.50	9.69	171.48	564.28	735.76	Ensign (junior grade).
23	Joseph H. Pendleton . . . . .	32.55	30.84	34.92	32.76	19.50	9.90	160.47	572.77	733.24	Second lieutenant, Marine Corps.
24	Wiley R. M. Field . . . . .	42.75	39.12	22.44	38.40	19.50	6.39	168.60	564.20	732.80	Ensign (junior grade).
25	Harold H. Eames . . . . .	38.10	39.96	30.12	45.60	18.60	9.60	181.98	549.53	731.51	Ensign (junior grade).
26	Edwin A. Anderson . . . . .	51.00	36.84	20.16	33.96	17.70	8.49	168.15	563.32	731.47	Ensign (junior grade).
27	John M. Poyer . . . . .	49.05	23.92	30.00	45.96	15.30	9.90	179.13	551.36	730.49	Ensign (junior grade).
28	Walter T. Paine . . . . .	38.85	34.20	30.00	42.96	18.60	8.64	173.25	558.68	729.93	Honorably discharged. a
29	William J. Grambs . . . . .	44.25	30.36	30.84	42.00	16.80	10.65	174.90	553.49	728.39	Honorably discharged. a
30	Otto C. Gsantner . . . . .	25.20	23.88	43.56	16.56	16.50	8.64	124.34	585.96	720.20	Honorably discharged. a
31	Harry L. Hawthorne . . . . .	25.65	39.96	36.60	24.00	16.20	7.14	149.55	568.01	717.56	Honorably discharged. a
32	Philo N. McGiffin . . . . .	47.10	35.28	30.12	35.40	16.80	9.75	174.45	538.36	712.81	Honorably discharged. a
33	Clarence C. Willis . . . . .	29.70	28.20	30.00	30.36	17.10	8.64	144.00	568.25	707.25	Honorably discharged. a
34	Frank H. Conant . . . . .	31.50	26.16	31.20	30.00	16.50	10.59	145.95	560.87	706.82	Honorably discharged. a
35	Harry G. Leopold . . . . .	17.70	32.52	37.08	27.96	15.00	8.55	139.41	559.80	699.21	Honorably discharged. a
36	Felton Parker . . . . .	44.25	30.84	24.96	40.80	20.70	9.69	171.24	521.24	692.48	Honorably discharged. a
37	Lawrence S. Gwyn . . . . .	38.30	24.12	30.96	41.40	18.30	9.45	163.53	527.89	691.42	Honorably discharged. a
38	John C. Leonard . . . . .	37.80	28.20	16.32	30.00	16.20	9.75	138.27	552.86	691.13	b.
39	Charles H. Howland . . . . .	25.20	31.32	31.44	24.60	19.20	8.85	140.61	549.54	690.15	Honorably discharged. a
40	Ward P. Winchell . . . . .	30.00	30.00	36.36	34.20	16.20	6.00	152.76	536.55	689.31	Honorably discharged. a
41	Robert B. Higgins . . . . .	16.20	20.64	39.96	25.20	15.60	5.25	122.85	558.65	681.50	Honorably discharged. a
42	George E. Kent . . . . .	42.45	31.56	30.00	40.80	18.00	10.59	173.40	506.38	679.78	Honorably discharged. a
43	Samuel A. W. Patterson . . . . .	45.60	32.04	23.40	31.80	15.00	9.99	167.83	515.80	673.63	Honorably discharged. a

44	Fredrick H. Stahl	45. 15	24. 48	34. 90	30. 00	18. 30	5. 40	154. 29	514. 07	672. 36	Honorably discharged. a
45	Andrew McAllister	19. 50	16. 80	30. 84	31. 20	15. 60	10. 29	124. 23	514. 58	638. 81	b.
§	Willis B. Day	11. 55	18. 24	30. 36	13. 56	15. 30	3. 75	92. 76	555. 50	648. 26	
	Lewis Nixon c	Absent.									

a. An act of Congress dated August 5, 1882, requires that all surplus cadets shall be honorably discharged from the naval service.

b. Physically disqualified for the naval service.

c. Appointed assistant naval constructor.

## MERIT-ROLL.

*Merit-roll of the naval cadets of the first class (46 members), at the annual examination, June, 1884.*

Order of merit for four years.	Name.	Astronomy, navigation, and surveying.	Least squares and strength of materials.	Ordnance instruction, gunnery, and infantry tactics.	Theory and practice of gunnery.	Heat.	Seamanship and naval tactics.	Practical instruction in steam-engineering.	Conduct.	Aggregate for fourth year.	Aggregate for third year.	Aggregate for second year.	Aggregate for first year.	General aggregate for four years.
		80	20	32	48	12	84	8	20	304	228	152	76	760
*1	Charles H. Hewes <sup>a</sup>	76.00	19.50	31.04	46.68	11.31	76.02	7.40	20.00	287.95	214.18	133.40	62.92	688.45
*2	Chester M. Knepper <sup>a</sup>	74.40	19.20	28.20	45.48	11.01	72.45	7.46	19.33	278.53	207.18	130.92	65.38	682.01
*3	Washington L. Capps <sup>a</sup>	69.00	18.80	28.08	41.64	10.23	74.13	7.40	20.00	269.28	200.83	141.29	69.56	680.96
*4	Willford B. Hoggatt <sup>a</sup>	74.80	18.30	29.28	44.04	10.92	76.65	7.14	20.00	281.13	198.02	129.11	58.85	668.11
*5	Clarence S. Williams <sup>a</sup>	74.80	19.35	29.20	40.56	10.77	77.49	6.80	20.00	278.97	194.48	125.28	62.05	662.78
6	Albert M. Beecher <sup>b</sup>	71.00	18.45	28.96	38.28	10.32	74.13	6.76	16.93	262.83	191.11	122.54	62.68	639.16
7	Frank K. Hill <sup>b</sup>	68.00	16.10	27.68	39.96	9.84	72.45	6.80	17.73	256.56	197.64	123.45	60.90	633.55
8	Frederic E. Curtis <sup>b</sup>	64.40	15.85	24.88	37.68	9.09	64.26	6.00	18.93	241.09	168.13	132.43	65.69	637.84
9	Roger Welles, jr. <sup>b</sup>	68.60	18.55	28.56	37.80	9.48	71.61	6.34	19.07	260.01	190.10	121.89	61.94	633.94
10	Nathaniel S. Moseley <sup>b</sup>	63.20	16.00	27.84	41.40	9.75	77.28	6.62	18.27	260.36	183.78	121.44	65.03	630.61
11	Horace A. Field <sup>b</sup>	68.60	17.15	28.64	36.60	9.81	70.14	6.66	18.67	256.27	191.27	121.54	58.59	627.67
12	Herbert McNulta <sup>b</sup>	62.80	14.75	26.24	37.56	9.24	71.82	6.66	19.33	248.40	185.34	120.63	62.99	617.36
13	Walter O. Hulme <sup>b</sup>	63.60	14.55	25.28	35.88	9.39	71.19	7.06	20.00	246.95	178.62	124.97	64.46	615.00
14	Thomas H. Leary <sup>b</sup>	60.60	17.30	26.40	40.32	9.00	74.55	6.62	19.47	254.26	178.15	119.63	58.94	610.98
15	John D. McDonald <sup>b</sup>	67.60	15.25	27.12	37.80	9.21	73.71	5.94	19.07	255.70	178.62	116.99	56.41	607.72
16	Henry E. Parmenter <sup>b</sup>	63.00	14.35	25.92	36.36	8.61	68.46	7.36	19.07	243.13	179.28	121.21	63.09	606.71
17	Hilary P. Jones <sup>b</sup>	64.40	16.30	28.80	35.76	9.69	73.29	6.80	19.27	251.11	177.23	114.98	59.54	602.86
18	Douglas F. Terrell <sup>b</sup>	65.20	14.85	26.72	34.08	10.35	70.98	6.62	19.60	248.60	180.54	114.91	57.96	602.01
19	Charles W. Hazeltine <sup>b</sup>	65.00	15.60	25.92	33.96	9.42	74.97	6.64	18.93	250.44	175.83	115.21	54.86	596.84
20	Frederick J. Loomis <sup>b</sup>	64.20	16.75	25.92	33.12	8.85	68.46	7.14	18.13	242.57	176.11	113.24	61.20	593.12
21	Henry K. McCay <sup>b</sup>	61.20	15.70	27.28	35.52	8.61	67.62	6.98	18.80	241.59	173.08	116.51	57.91	592.09

# FIRST CLASS.

37

22	Isaac K. Seymour <sup>b</sup>	58.80	13.65	24.24	37.32	9.51	76.02	6.26	20.00	245.80	172.35	114.97	58.46	591.58
23	William R. Shoemaker <sup>b</sup>	62.60	13.05	25.44	32.40	9.03	76.23	6.66	18.27	243.68	172.71	114.51	59.51	590.41
24	Charles F. Plunkett <sup>b</sup>	61.60	13.85	26.00	32.28	8.67	71.19	6.26	16.00	235.85	166.25	111.84	63.99	577.93
25	Wirt McCreary <sup>b</sup>	60.20	13.85	26.88	31.08	8.28	69.72	6.40	18.80	235.21	165.13	115.62	58.05	574.01
26	Charles M. Fahn <sup>b</sup>	60.00	16.55	25.52	32.38	9.03	63.42	6.60	16.27	230.27	164.77	117.69	60.05	572.78
27	Robert L. Wernitz <sup>b</sup>	57.10	13.95	26.32	35.04	9.27	57.75	6.74	19.47	230.14	165.97	119.65	58.52	570.28
28	Rumee H. Whittlesey <sup>b</sup>	64.20	12.60	23.52	34.44	8.37	63.21	6.06	18.93	231.33	162.26	114.76	58.95	567.30
29	Joeliah S. McKean <sup>b</sup>	57.80	13.35	23.44	33.36	8.55	74.34	6.40	17.60	234.94	160.71	107.28	62.92	565.75
30	Charles H. Hayes <sup>b</sup>	59.60	13.85	25.28	32.40	8.10	70.77	6.20	18.13	234.33	161.77	111.58	57.21	564.89
31	Horace W. Jones	52.80	13.90	24.64	34.68	8.31	65.31	6.78	17.87	224.29	168.33	112.65	57.10	562.37
32	Victor Macpherson	62.00	14.20	25.12	34.56	9.00	70.77	6.40	16.53	233.58	162.41	104.61	53.42	559.02
33	William W. Bush, jr.	65.40	16.00	25.60	36.36	9.09	69.72	6.06	13.20	241.43	157.20	109.46	49.12	557.21
34	John R. Harrell <sup>a</sup>	59.20	14.15	27.36	34.20	9.03	66.36	6.52	13.73	230.55	159.54	111.55	55.31	556.95
35	Richard O. Crisp <sup>a</sup>	54.20	15.05	24.56	33.72	8.43	58.69	6.92	18.27	219.74	165.66	111.08	60.03	556.51
36	Edward Davis	54.00	13.10	23.20	32.76	8.01	63.42	6.90	17.47	213.86	157.65	114.40	58.46	549.37
37	William Johnston	53.60	13.05	24.08	32.76	8.28	68.68	6.58	19.07	226.30	158.98	107.25	56.09	545.62
38	John B. Starr	55.80	14.00	24.72	34.44	8.61	58.80	6.58	16.13	219.08	159.95	110.02	54.05	543.10
39	Sidney F. Smith	57.00	14.95	24.48	30.00	9.12	60.06	6.30	19.07	220.98	156.89	106.98	56.48	541.33
40	William A. O'Malley	56.00	13.00	22.00	33.00	7.08	69.09	6.66	19.47	226.30	151.86	103.80	54.39	536.85
41	Pierre O. Kellholtz <sup>a</sup>	52.60	12.80	23.68	34.20	8.31	57.33	7.34	18.93	215.19	159.63	104.85	55.19	534.86
42	Thornton R. Richardson	53.60	13.90	25.20	33.48	7.80	64.47	6.56	16.93	221.94	157.83	102.37	50.68	532.82
43	William H. Lawrence	53.40	12.50	23.36	31.44	8.04	66.36	6.94	17.60	219.64	158.23	102.12	50.96	530.95
44	Albert C. Mathews	54.40	12.00	25.68	33.36	7.89	56.28	6.40	15.73	211.74	159.36	104.85	54.94	530.59
45	William E. Wirt	51.40	13.45	21.20	31.80	7.95	58.80	5.60	17.33	207.53	144.56	101.18	52.90	508.17
46	Robert H. Orr	51.20	13.20	20.80	30.00	7.80	55.44	6.24	14.67	199.35	146.51	103.04	49.10	498.00

<sup>a</sup>Completed four years' course "with distinction."

<sup>b</sup>Completed four years' course "with credit."

<sup>c</sup>Received 85 per cent. of multiple for the first-class year.

<sup>d</sup>Resigned after receiving a certificate that he had completed the four years' course.

*Merit-roll of naval cadets of the second-class (40 members), at the annual examination June, 1884.*

Order of annual merit	Name.	Mechanical drawing.	International law.	Calculus and mechanics.	Sound, light, and heat.	Electricity and magnetism.	Steam machinery, marine engines, and boilers.	Conduct.	Aggregate.
	Maxima.	16	16	56	28	28	72	12	228
*1	David W. Taylor . . .	14. 16	14. 96	59. 92	26. 39	26. 67	69. 12	10. 92	222. 14
*2	William McKay . . .	14. 40	15. 40	54. 74	25. 48	26. 18	66. 78	11. 22	214. 20
*3	John G. Tawressey . . .	14. 40	14. 52	51. 38	25. 27	24. 99	67. 66	11. 28	209. 70
*4	Albert C. Dieffenbach . .	14. 40	13. 84	55. 58	24. 57	25. 13	65. 88	10. 26	209. 66
*5	Theodore C. Fenton . . .	13. 52	13. 00	51. 94	24. 64	23. 52	66. 60	11. 34	204. 56
*6	Volney O. Chase . . .	11. 60	14. 92	51. 10	24. 92	24. 36	65. 70	8. 22	200. 82
7	William G. Miller . . .	11. 92	12. 52	51. 24	22. 75	24. 01	62. 64	7. 74	192. 82
8	George W. Kline . . .	11. 24	11. 56	47. 04	23. 31	22. 82	60. 66	10. 56	187. 19
9	Alexander Thompson . . .	11. 24	13. 40	43. 12	23. 59	22. 47	60. 48	10. 62	184. 92
10	George R. Slocum . . .	11. 52	13. 32	45. 92	23. 52	22. 12	57. 06	10. 14	183. 60
11	James W. Kittrell . . .	11. 40	14. 16	45. 08	23. 38	23. 17	54. 72	10. 14	182. 05
12	Charles S. Stanworth . . .	10. 20	12. 76	50. 40	20. 37	22. 61	56. 16	6. 66	179. 16
13	Joseph Strauss . . .	14. 40	11. 60	40. 88	21. 63	20. 37	58. 68	10. 08	177. 64
14	Walker W. Joy nes . . .	13. 80	14. 76	37. 38	21. 77	20. 23	58. 32	11. 28	177. 54
15	John P. McGuinness . . .	10. 92	11. 72	41. 02	22. 47	23. 59	57. 78	9. 54	177. 04
16	Armistead Rust . . .	11. 32	11. 88	39. 34	20. 30	19. 81	61. 88	11. 04	175. 07
17	Thomas B. Slade . . .	13. 48	11. 68	39. 76	19. 81	18. 55	57. 60	9. 84	170. 72
18	Harrison A. Bispham . . .	12. 00	13. 60	37. 10	20. 30	20. 02	54. 90	11. 40	169. 32
19	David S. Nes . . .	14. 20	11. 20	37. 94	19. 88	20. 58	55. 95	9. 18	168. 96
20	Benjamin M. Lombard . . .	11. 16	13. 32	44. 38	20. 09	22. 96	49. 50	6. 24	167. 65
21	Robert L. Russell . . .	10. 88	13. 92	39. 20	21. 00	19. 81	51. 12	11. 46	167. 39
22	George K. Evans . . .	12. 12	11. 76	39. 34	22. 54	19. 32	52. 02	8. 40	165. 50
23	Louis E. Warfield a . . .	12. 32	10. 92	35. 84	19. 81	17. 50	54. 18	10. 44	161. 01
24	Charles M. McCormick . . .	14. 40	10. 80	35. 56	18. 83	18. 76	51. 84	10. 80	160. 99
25	Edward W. Eberle . . .	10. 80	12. 64	37. 10	19. 67	20. 44	47. 70	9. 78	158. 13
26	William W. Gilmer . . .	11. 20	11. 20	36. 40	18. 24	18. 48	50. 94	11. 52	158. 08
27	Robert E. Coontz . . .	10. 76	13. 12	35. 42	18. 13	19. 67	47. 70	11. 76	156. 56
28	George B. Tennant . . .	10. 48	11. 80	37. 94	18. 69	20. 44	51. 84	3. 90	155. 09
29	Benjamin Wright . . .	10. 84	12. 36	36. 96	18. 69	19. 04	49. 14	7. 56	154. 59
30	James E. Shindel . . .	10. 40	12. 12	36. 26	17. 78	19. 88	48. 24	9. 12	153. 80
31	Glennie Tarbox . . .	11. 24	11. 40	37. 52	19. 04	20. 30	49. 50	3. 72	152. 72
32	Charles C. Poe . . .	10. 68	11. 24	37. 66	17. 99	19. 25	47. 16	8. 64	152. 62
33	Albert Burnstine . . .	11. 04	11. 40	37. 24	19. 04	18. 76	47. 70	6. 18	151. 36
34	Charles M. Corpening . . .	10. 20	12. 92	36. 40	17. 78	18. 62	47. 84	4. 86	148. 12
35	Arthur H. Dutton . . .	10. 84	11. 12	36. 26	17. 92	18. 76	46. 80	6. 36	148. 06
36	Robert B. Howell . . .	10. 44	11. 96	35. 42	18. 48	19. 39	47. 84	3. 84	146. 87
37	Julius M. Dashiell . . .	10. 92	10. 80	35. 00	18. 69	17. 50	46. 62	3. 48	143. 01
†	Samuel E. Pitner . . .	10. 80	10. 16	35. 00	18. 41	15. 54	48. 24	10. 62	148. 77
†	James T. Bootes . . .	10. 60	11. 00	34. 30	19. 74	18. 34	48. 24	6. 00	148. 22
†	Preston H. Uberroth . . .	10. 48	10. 36	35. 00	18. 69	17. 15	46. 98	8. 10	146. 76

a Resigned.

*Merit-roll of naval cadets of the third class (32 members), at the annual examination, June, 1884.*

Order of annual merit.	Name.	Trigonometry, analytical geometry, and descriptive geometry.	Chemistry.	English, history, and law.	French and Spanish.	Mechanical drawing.	Conduct.	Aggregate.
	Maxima . . . .	48	24	24	24	24	8	152
*1	Frederick N. Kress . . . .	45.36	18.30	21.00	21.18	20.58	4.99	131.41
2	Webster A. Edgar . . . .	41.76	17.70	19.56	23.82	19.86	4.61	127.31
3	William H. G. Bullard . . . .	40.68	18.12	20.22	17.52	18.12	6.66	121.32
4	Willard L. Dodd . . . .	36.72	18.30	21.36	17.82	20.22	6.46	120.88
5	Joseph W. Oman . . . .	36.00	18.54	19.98	18.12	19.20	7.62	119.46
6	Harold K. Hines . . . .	36.72	16.92	20.16	19.08	18.66	6.98	118.52
7	George Breed . . . .	39.36	18.96	18.36	18.18	19.08	3.36	117.30
8	William H. Foust . . . .	35.52	16.86	19.74	17.64	20.76	6.53	117.05
9	Benjamin Jacobs . . . .	37.44	17.16	17.58	18.78	18.84	6.82	116.62
10	Ryland D. Tisdale . . . .	33.72	18.84	18.30	21.30	17.82	5.95	115.93
11	William H. Caldwell . . . .	39.36	16.62	18.36	16.50	18.60	6.14	115.58
12	Samuel M. Strite . . . .	39.72	17.34	17.22	16.98	17.40	6.66	115.32
13	Harry E. Rumsey . . . .	36.24	18.30	18.30	15.90	19.92	5.12	113.78
14	Philip Andrews . . . .	36.72	15.96	18.96	16.14	19.38	5.89	113.05
15	Francis A. Levis . . . .	33.36	16.86	18.00	16.38	20.58	7.71	112.80
16	George F. Hawk . . . .	36.36	17.64	18.90	16.14	17.82	5.66	112.52
17	George F. Cooper . . . .	32.40	17.28	20.40	19.14	15.60	7.01	111.83
18	Friend W. Jenkins . . . .	35.76	19.44	15.84	18.42	17.58	3.33	110.37
19	John C. P. DeKrafft . . . .	36.24	15.48	17.22	16.08	17.76	6.40	109.18
20	Edward T. Witherspoon . . . .	31.68	15.90	20.34	18.66	16.44	5.41	108.43
21	George B. Reilly . . . .	33.12	15.09	18.24	16.80	17.82	6.94	107.92
22	John W. Stearns . . . .	30.84	15.24	16.62	21.18	18.42	4.51	106.81
23	Edwin Van D. Johnson . . . .	37.20	15.96	17.40	15.30	16.56	4.06	106.48
24	John G. Berry . . . .	32.28	17.34	17.34	18.12	16.08	4.67	105.83
25	Cornelius C. Billings . . . .	32.88	15.00	16.38	15.90	16.92	6.75	103.83
26	Samuel B. Winram . . . .	32.52	15.66	16.08	15.12	18.12	5.38	102.88
27	John T. McMillan . . . .	35.04	15.72	15.48	15.42	15.84	4.42	101.92
28	John W. Griswold . . . .	30.96	15.30	17.40	15.06	15.84	3.39	97.95
29	Clinton L. Hall . . . .	30.00	15.00	15.06	17.10	16.26	1.63	95.05
†	David M. Young . . . .	31.44	14.46	17.28	19.68	15.24	5.66	103.76
§	Chester L. Caldwell . . . .	28.44	14.58	17.10	16.50	19.80	7.17	103.59
§	Frank D. Webster . . . .	29.64	15.54	15.66	15.06	18.84	5.34	100.08

# RESIGNATIONS AND DISMISSALS.

January 2 to October 7, 1884.

## RESIGNED.

Naval Cadet Henry E. Brucks	Jan. 2, 1884
Naval Cadet John E. Ethell	Jan. 17, 1884
Naval Cadet John L. Wethered	Jan. 17, 1884
Naval Cadet Alpheus L. Porter	Jan. 18, 1884
Naval Cadet Oliver O'D. Frick	Jan. 19, 1884
Naval Cadet Walter Canaday	Jan. 22, 1884
Naval Cadet William D. Kochersperger	Jan. 28, 1884
Naval Cadet James N. Alexander	Jan. 30, 1884
Naval Cadet Louis D. Ferriss	Feb. 2, 1884
Naval Cadet Harry L. Boyd	Feb. 4, 1884
Naval Cadet Richard T. Shipley	Feb. 4, 1884
Naval Cadet Delworth W. Beswick	Feb. 4, 1884
Naval Cadet William B. Bonham	Feb. 4, 1884
Naval Cadet Archie P. Campbell	Feb. 4, 1884
Naval Cadet Henry W. Carpenter	Feb. 4, 1884
Naval Cadet Henry H. Davis	Feb. 4, 1884
Naval Cadet Erle Edmundson	Feb. 4, 1884
Naval Cadet George W. Galloway	Feb. 4, 1884
Naval Cadet Robert C. Hull	Feb. 4, 1884
Naval Cadet Frank Kelly	Feb. 4, 1884
Naval Cadet Oscar W. Koester	Feb. 4, 1884
Naval Cadet Edward P. Morgan	Feb. 4, 1884
Naval Cadet William T. Peacock	Feb. 4, 1884
Naval Cadet Franklin Potter	Feb. 4, 1884
Naval Cadet William H. Seymour	Feb. 4, 1884
Naval Cadet Edwin M. Taliaferro	Feb. 4, 1884
Naval Cadet James Van de Wyngaard	Feb. 4, 1884
Naval Cadet Harry Friedlander	Feb. 5, 1884
Naval Cadet Godfrey L. Carden	Feb. 5, 1884
Naval Cadet Louis Mowbray	Feb. 5, 1884
Naval Cadet George E. Lynott	Feb. 28, 1884
Naval Cadet Valentine H. Muller	Mar. 20, 1884
Naval Cadet William C. Van Antwerp	Apr. 8, 1884
Naval Cadet Alfred N. Hill	Apr. 10, 1884
Naval Cadet Joseph A. Guthrie	Apr. 15, 1884
Naval Cadet William T. Gillespie	Apr. 17, 1884
Naval Cadet James L. Jacobs	May 2, 1884
Naval Cadet Charles K. Luzenberg	June 9, 1884
Naval Cadet Chester L. Caldwell	Sept. 6, 1884
Naval Cadet Louis E. W.	May 20, 1884
Naval Cadet George W.	Sept. 5, 1884
Naval Cadet Frank	May 19, 1884
Naval Cadet Char	June 2, 1884
Naval Cadet Pie	Sept. 18, 1884
30	Sept. 26, 1884
perger, William Daniel	May 20,

Naval Cadet Henry K. McCay . . . . .	Aug. 6, 1884
Naval Cadet John R. Harrell . . . . .	Aug. 7, 1884
Naval Cadet R. O. Crisp . . . . .	†Aug. 21, 1884
Naval Cadet Thomas H. Leary . . . . .	Aug. 23, 1884
Naval Cadet Frederic E. Curtis . . . . .	Aug. 24, 1884

## DROPPED.

Naval Cadet Harry B. Mulford . . . . .	Feb. 5, 1884
Naval Cadet William E. Tolin . . . . .	Feb. 5, 1884
Naval Cadet Sam W. Irwin . . . . .	Feb. 18, 1884
Naval Cadet Clarence H. Mathews . . . . .	Mar. 25, 1884
Naval Cadet Willis B. Day . . . . .	July 10, 1884
Naval Cadet William S. Hollis . . . . .	July 10, 1884
Naval Cadet John C. Leonard . . . . .	*Sept. 26, 1884
Naval Cadet Andrew McAllister . . . . .	*Sept. 26, 1884
Naval Cadet Ledru R. Savage . . . . .	Oct. 1, 1884
Naval Cadet Edward S. Hawke . . . . .	Oct. 1, 1884
Naval Cadet Harry W. McGee . . . . .	Oct. 4, 1884

## DISMISSED.

Naval Cadet Leon H. Jastremski . . . . .	Feb. 28, 1884
Naval Cadet John W. Maxey . . . . .	Feb. 28, 1884
Naval Cadet Frederic Parker . . . . .	Feb. 28, 1884

## DIED.

Naval Cadet Frederick S. Strang . . . . .	Oct. 3, 1884
Naval Cadet Ambrose R. W. Cohen (at Augusta, Ga.) . . . . .	Oct. 7, 1884

\* To take effect December 31, 1884.

† To take effect November 18, 1884.



## RESIGNATIONS AND DISMISSALS.

*January 2 to October 7, 1884.*

### RESIGNED.

Naval Cadet Henry E. Brucks	Jan. 2, 1884
Naval Cadet John E. Ethell	Jan. 17, 1884
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Naval Cadet Henry W. Carpenter	Feb. 4, 1884
Naval Cadet Henry H. Davis	Feb. 4, 1884
Naval Cadet Erle Edmundson	Feb. 4, 1884
Naval Cadet George W. Galloway	Feb. 4, 1884
Naval Cadet Robert C. Hull	Feb. 4, 1884
Naval Cadet Frank Kelly	Feb. 4, 1884
Naval Cadet Oscar W. Koester	Feb. 4, 1884
Naval Cadet Edward P. Morgan	Feb. 4, 1884
Naval Cadet William T. Peacock	Feb. 4, 1884
Naval Cadet Franklin Potter	Feb. 4, 1884
Naval Cadet William H. Seymour	Feb. 4, 1884
Naval Cadet Edwin M. Taliaferro	Feb. 4, 1884
Naval Cadet James Van de Wyngaard	Feb. 4, 1884
Naval Cadet Harry Friedlander	Feb. 5, 1884
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Naval Cadet William T. Gillespie	Apr. 17, 1884
Naval Cadet James L. Jacobs	May 2, 1884
Naval Cadet Charles K. Luzenberg	June 9, 1884
Naval Cadet Chester L. Caldwell	Sept. 6, 1884
Naval Cadet Louis E. W. Alabama	May 20, 1884
Naval Cadet George W. Alabama	Sept. 5, 1884
Naval Cadet Frank New York	May 19, 1884
Naval Cadet Char Virginia	June 2, 1884
Naval Cadet P. Iowa	Sept. 18, 1884
Naval Cadet John Virginia	Sept. 26, 1884
Naval Cadet Louis Wisconsin	May 20, 1884
Naval Cadet Kochersperger, William Daniel	May 20, 1884

Naval Cadet Henry K. McCay . . . . .	Aug. 6, 1884
Naval Cadet John R. Harrell . . . . .	Aug. 7, 1884
Naval Cadet R. O. Crisp . . . . .	†Aug. 21, 1884
Naval Cadet Thomas H. Leary . . . . .	Aug. 23, 1884
Naval Cadet Frederic E. Curtis . . . . .	Aug. 24, 1884

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Naval Cadet Harry B. Mulford . . . . .	Feb. 5, 1884
Naval Cadet William E. Tolin . . . . .	Feb. 5, 1884
Naval Cadet Sam W. Irwin . . . . .	Feb. 18, 1884
Naval Cadet Clarence H. Mathews . . . . .	Mar. 25, 1884
Naval Cadet Willis B. Day . . . . .	July 10, 1884
Naval Cadet William S. Hollis . . . . .	July 10, 1884
Naval Cadet John C. Leonard . . . . .	*Sept. 26, 1884
Naval Cadet Andrew McAllister . . . . .	*Sept. 26, 1884
Naval Cadet Ledru R. Savage . . . . .	Oct. 1, 1884
Naval Cadet Edward S. Hawke . . . . .	Oct. 1, 1884
Naval Cadet Harry W. McGee . . . . .	Oct. 4, 1884

## DISMISSED.

Naval Cadet Leon H. Jastremski . . . . .	Feb. 28, 1884
Naval Cadet John W. Maxcy . . . . .	Feb. 28, 1884
Naval Cadet Frederic Parker . . . . .	Feb. 28, 1884

## DIED.

Naval Cadet Frederick S. Strang . . . . .	Oct. 3, 1884
Naval Cadet Ambrose R. W. Cohen (at Augusta, Ga.) . . . . .	Oct. 7, 1884

\* To take effect December 31, 1884.

† To take effect November 18, 1884.

# RESIGNATIONS AND DISMISSALS.

January 2 to October 7, 1884.

## RESIGNED.

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Naval Cadet William B. Bonham	Feb. 4, 1884
Naval Cadet Archie P. Campbell	Feb. 4, 1884
Naval Cadet Henry W. Carpenter	Feb. 4, 1884
Naval Cadet Henry H. Davis	Feb. 4, 1884
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Naval Cadet George W. Galloway	Feb. 4, 1884
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Naval Cadet Frank Kelly	Feb. 4, 1884
Naval Cadet Oscar W. Koester	Feb. 4, 1884
Naval Cadet Edward P. Morgan	Feb. 4, 1884
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Naval Cadet Franklin Potter	Feb. 4, 1884
Naval Cadet William H. Seymour	Feb. 4, 1884
Naval Cadet Edwin M. Taliaferro	Feb. 4, 1884
Naval Cadet James Van de Wyngaard	Feb. 4, 1884
Naval Cadet Harry Friedlander	Feb. 5, 1884
Naval Cadet Godfrey L. Carden	Feb. 5, 1884
Naval Cadet Louis Mowbray	Feb. 5, 1884
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Naval Cadet Valentine H. Muller	Mar. 20, 1884
Naval Cadet William C. Van Antwerp	Apr. 8, 1884
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Naval Cadet William T. Gillespie	Apr. 17, 1884
Naval Cadet James L. Jacobs	May 2, 1884
Naval Cadet Charles K. Luzenberg	June 9, 1884
Naval Cadet Chester L. Caldwell	June 9, 1884
Naval Cadet Louis E. W.	June 10, 1884
Naval Cadet George V. Alabama	June 11, 1884
Naval Cadet Frank New York	June 13, 1884
Naval Cadet Char' Virginia	June 13, 1884
Naval Cadet Pieh Iowa	Aug. 6, 1884
30 Louis Virginia	
erger, William Daniel Wisconsin	
Pennsylvania	

Sept. 6, 1884  
May 20, 1884  
Sept. 5, 1884  
May 19, 1884  
June 2, 1884  
Sept. 18, 1884  
Sept. 26, 1884  
May 20, 1  
May 20, 1

Naval Cadet Henry K. McCay . . . . .	Aug. 6, 1884
Naval Cadet John R. Harrell . . . . .	Aug. 7, 1884
Naval Cadet R. O. Crisp . . . . .	†Aug. 21, 1884
Naval Cadet Thomas H. Leary . . . . .	Aug. 23, 1884
Naval Cadet Frederic E. Curtis . . . . .	Aug. 24, 1884

## DROPPED.

Naval Cadet Harry B. Mulford . . . . .	Feb. 5, 1884
Naval Cadet William E. Tolin . . . . .	Feb. 5, 1884
Naval Cadet Sam W. Irwin . . . . .	Feb. 18, 1884
Naval Cadet Clarence H. Mathews . . . . .	Mar. 25, 1884
Naval Cadet Willis B. Day . . . . .	July 10, 1884
Naval Cadet William S. Hollis . . . . .	July 10, 1884
Naval Cadet John C. Leonard . . . . .	*Sept. 26, 1884
Naval Cadet Andrew McAllister . . . . .	*Sept. 26, 1884
Naval Cadet Ledru R. Savage . . . . .	Oct. 1, 1884
Naval Cadet Edward S. Hawke . . . . .	Oct. 1, 1884
Naval Cadet Harry W. McGee . . . . .	Oct. 4, 1884

## DISMISSED.

Naval Cadet Leon H. Jastremski . . . . .	Feb. 28, 1884
Naval Cadet John W. Maxey . . . . .	Feb. 28, 1884
Naval Cadet Frederic Parker . . . . .	Feb. 28, 1884

## DIED.

Naval Cadet Frederick S. Strang . . . . .	Oct. 3, 1884
Naval Cadet Ambrose R. W. Cohen (at Augusta, Ga.) . . . . .	Oct. 7, 1884

\* To take effect December 31, 1884.

† To take effect November 18, 1884.

# RESIGNATIONS AND DISMISSALS.

January 2 to October 7, 1884.

## RESIGNED.

Naval Cadet Henry E. Brucks		Jan. 2, 1884
Naval Cadet John E. Ethell		Jan. 17, 1884
Naval Cadet John L. Wethered		Jan. 17, 1884
Naval Cadet Alpheus L. Porter		Jan. 18, 1884
Naval Cadet Oliver O'D. Frick		Jan. 19, 1884
Naval Cadet Walter Canaday		Jan. 22, 1884
Naval Cadet William D. Kochersperger		Jan. 28, 1884
Naval Cadet James N. Alexander		Jan. 30, 1884
Naval Cadet Louis D. Ferriss		Feb. 2, 1884
Naval Cadet Harry L. Boyd		Feb. 4, 1884
Naval Cadet Richard T. Shipley		Feb. 4, 1884
Naval Cadet Delworth W. Beswick		Feb. 4, 1884
Naval Cadet William B. Bonham		Feb. 4, 1884
Naval Cadet Archie P. Campbell		Feb. 4, 1884
Naval Cadet Henry W. Carpenter		Feb. 4, 1884
Naval Cadet Henry H. Davis		Feb. 4, 1884
Naval Cadet Erle Edmundson		Feb. 4, 1884
Naval Cadet George W. Galloway		Feb. 4, 1884
Naval Cadet Robert C. Hull		Feb. 4, 1884
Naval Cadet Frank Kelly		Feb. 4, 1884
Naval Cadet Oscar W. Koester		Feb. 4, 1884
Naval Cadet Edward P. Morgan		Feb. 4, 1884
Naval Cadet William T. Peacock		Feb. 4, 1884
Naval Cadet Franklin Potter		Feb. 4, 1884
Naval Cadet William H. Seymour		Feb. 4, 1884
Naval Cadet Edwin M. Taliaferro		Feb. 4, 1884
Naval Cadet James Van de Wyngaard		Feb. 4, 1884
Naval Cadet Harry Friedlander		Feb. 5, 1884
Naval Cadet Godfrey L. Carden		Feb. 5, 1884
Naval Cadet Louis Mowbray		Feb. 5, 1884
Naval Cadet George E. Lynott		Feb. 28, 1884
Naval Cadet Valentine H. Muller		Mar. 20, 1884
Naval Cadet William C. Van Antwerp		Apr. 8, 1884
Naval Cadet Alfred N. Hill		Apr. 10, 1884
Naval Cadet Joseph A. Guthrie		Apr. 15, 1884
Naval Cadet William T. Gillespie		Apr. 17, 1884
Naval Cadet James L. Jacobs		May 2, 1884
Naval Cadet Charles K. Luzenberg	May 18, 1884	June 9, 1884
Naval Cadet Chester L. Caldwell	Sept. 6, 1884	June 9, 1884
Naval Cadet Louis E. W.	Alabama May 20, 1884	June 10, 1884
Naval Cadet George W.	Alabama Sept. 5, 1884	June 11, 1884
Naval Cadet Frank	New York May 19, 1884	June 13, 1884
Naval Cadet Char	Virginia June 2, 1884	June 13, 1884
Naval Cadet Piegell	Iowa Sept. 18, 1884	Aug. 6, 1884
30 alton	Virginia Sept. 27	
ob Louis	Wisconsin May 2	
nersperger, William Daniel	Pennsylvania May 2	

Naval Cadet Henry K. McCay . . . . .	Aug. 6, 1884
Naval Cadet John R. Harrell . . . . .	Aug. 7, 1884
Naval Cadet R. O. Crisp . . . . .	†Aug. 21, 1884
Naval Cadet Thomas H. Leary . . . . .	Aug. 23, 1884
Naval Cadet Frederic E. Curtis . . . . .	Aug. 24, 1884

## DROPPED.

Naval Cadet Harry B. Mulford . . . . .	Feb. 5, 1884
Naval Cadet William E. Tolin . . . . .	Feb. 5, 1884
Naval Cadet Sam W. Irwin . . . . .	Feb. 18, 1884
Naval Cadet Clarence H. Mathews . . . . .	Mar. 25, 1884
Naval Cadet Willis B. Day . . . . .	July 10, 1884
Naval Cadet William S. Hollis . . . . .	July 10, 1884
Naval Cadet John C. Leonard . . . . .	*Sept. 26, 1884
Naval Cadet Andrew McAllister . . . . .	*Sept. 26, 1884
Naval Cadet Ledru R. Savage . . . . .	Oct. 1, 1884
Naval Cadet Edward S. Hawke . . . . .	Oct. 1, 1884
Naval Cadet Harry W. McGee . . . . .	Oct. 4, 1884

## DISMISSED.

Naval Cadet Leon H. Jastremski . . . . .	Feb. 28, 1884
Naval Cadet John W. Maxcy . . . . .	Feb. 28, 1884
Naval Cadet Frederic Parker . . . . .	Feb. 28, 1884

## DIED.

Naval Cadet Frederick S. Strang . . . . .	Oct. 3, 1884
Naval Cadet Ambrose R. W. Cohen (at Augusta, Ga.) . . . . .	Oct. 7, 1884

\* To take effect December 31, 1884.

† To take effect November 18, 1884.

## COURSE OF INSTRUCTION.

## FIRST YEAR—FOURTH CLASS—Continued.

## SECOND TERM.

Department.	Weekly rec-itations.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	2	4	ALGEBRA: Course for first term continued. Development of algebraic functions by means of indeterminate coefficients and the binomial theorem; permutations and combinations; summation of series; continued fractions; logarithms; exponential equations; theory of equations, including the solution of numerical equations.	Ray's Higher Algebra. Todhunter's Algebra.* Bowditch's Useful Tables.*
	3	4	GEOMETRY: Course for first term continued. Spherical geometry; the cone and the cylinder; mensuration of rectilinear figures, and of the sphere, cone, and cylinder; application of algebra to determinate geometry.	Chauvenet's Geometry.
<i>English Studies, History, and Law.</i>	2	4	ENGLISH: Rhetoric and composition; choice and use of words; kinds of composition; narration and description; argumentative composition; exercises in the composition of letters and telegrams. Themes.	Hill's Rhetoric.
	3	4	HISTORY: Progress of colonial development in America, and the history of the United States; important points in the naval history of the United States, by notes or lectures.	Eliot's History of the United States. Mitchell's Atlas.*
<i>Modern Languages.</i>	5†	4	FRENCH: Reading and translating "Le Consorit", three periods a week. Written translations from English into French, two periods a week; the Saturday period to be devoted chiefly to dictation.	Le Consorit de 1813. Keetel's Grammar.* Gasc's Dictionary.*
	2	4	SPANISH: Robertson's method. [Given as an advanced course.]	Robertson's Spanish Course.

† Saturday morning period.

## SECOND YEAR—THIRD CLASS.

## FIRST TERM.

Department.	Weekly recitations.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	1	4	DESCRIPTIVE GEOMETRY: Orthographic projections; representation of points, lines, and planes; problems relating to the right line and the plane; representations of surfaces of the second order.	Church's Descriptive Geometry.
	4	4	TRIGONOMETRY: Measures of arcs and angles; trigonometric functions; analytical investigation of trigonometric formulas, with their application to all the cases of plane and spherical triangles; construction and use of trigonometric tables; inverse trigonometric functions; De Moivre's theorem; solution of trigonometric equations; practical applications of trigonometry to the solution of plane and spherical triangles, the astronomical triangle, and the measurements of heights and distances.	Chauvenet's Trigonometry; Todhunter's Trigonometry. Bowditch's Useful Tables.*
<i>English Studies, History, and Law.</i>	3	1	ENGLISH: Classification of words; definition of words by usage and by derivation; synonyms; laws of change in the meaning of words; faults in diction and their remedies; selection and arrangement; elementary principles of reasoning; principles of composition; exercises in the composition of official dispatches, letters, and telegrams. Themes.	Abbott and Seeley's English Lessons for English People; Abbott's How to Write Clearly.
	2	3		Ayres's Orthoëpist.* Ayres's Verbalist.*
	2	1		The School Herald.
	1	3	HISTORY: Contemporary history, including the comparative study of governments, institutions, and political geography.	Martin's Statesman's Year Book. Mitchell's Atlas.*
	2	3	LAW: Constitution of the United States.	Andrews's Manual of the Constitution.
<i>Modern Languages.</i>	5	4	FRENCH: Reading and translating French comedy, three periods a week. Written translations from English into French, or themes; two periods a week.	Böcher's Series of French Plays. Keetel's Grammar;* Gasc's Dictionary.*
	1	4	SPANISH: Robertson's method; sea terms and phrases, and conversations thereon. [Given as an advanced course.]	La Calmena Española. Robertson's Spanish Course.*
<i>Mechanical Drawing.</i>	1	4	MECHANICAL DRAWING: Use of instruments; preliminary construction of rectilinear and curved figures to scale; inking in; drawing section lines.	Tomkin's Machine Construction and Drawing.*



## SECOND YEAR—THIRD CLASS—Continued

## SECOND TERM.

Department.	Weekly recitations.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	1	4	DESCRIPTIVE GEOMETRY: Course for first term continued. Warped surfaces, and surfaces of revolution; development of single-curved surfaces; intersection of surfaces; tangent lines and planes; projections of the sphere; axometric projections; shades and shadows.	Church's Descriptive Geometry.
	4	4	ANALYTICAL GEOMETRY: Equations of the straight line and of the conic sections; transformation of co-ordinates; properties of the conic sections; equations to tangents and normals; determination of loci; discussion of the general equation of the second degree; equations of the plane, of lines in space, and of surfaces of the second order; principal properties of surfaces of the second order; discussion of the general equation of the second degree in three variables.	C. Smith's Conic Sections; Aldis's Solid Geometry.
<i>Physics and Chemistry.</i>	5	4	PHYSICS: Force and motion; gravitation and molecular attraction; hydrostatics; pneumatics.  CHEMISTRY: Aim and scope of chemistry; the atmosphere; oxygen, nitrogen, water, and hydrogen; nitric and chlorhydric acids; acids, bases, and salts; chlorine group; sulphur and phosphorus, and their compounds. Laws of Avogadro, Charles, and Mariotte; formulas; basicity; notation and nomenclature; arsenic, antimony, and bismuth; combustion; carbon and its compounds, boron and silicon; the alkali group; the calcium group: magnesium and zinc; the sesquioxide group; copper, mercury, and tin; gold and platinum; atomic weights. Practical work in the chemical laboratory. Lectures.	Ganot's Physics.  Eliot and Storer's Manual of Chemistry. Lecture notes.
<i>Mechanical Drawing.</i>	5†	4	MECHANICAL DRAWING: Orthographic projections, sections, intersection of surfaces, isometrical drawing, perspective, drawing of screws, bolts, nuts, spur-gears, bevel-gears, and other details of gun-carriages, engines, and naval machinery.	Tomkin's Machine Construction and Drawing.*

† Saturday morning period.

## THIRD YEAR—SECOND CLASS.

## FIRST TERM.

Department.	Weekly recitations.	Number of months.	Subject.	Text-books.
<i>Steam engineering.</i>	4	4	<b>MARINE ENGINES AND BOILERS:</b> Explanation of all the parts of the engine; types of engines; steam valves and other valves; generation of steam; distribution and expansion of steam; screw propellers and side-wheels; the indicator and its diagrams; power of an engine and computations relating thereto; hydrometers; saturation; scale and its prevention; casualties; boilers; materials; combustion; transfer of heat; testing steam-engines; principles of mechanism.	King's Lessons and Notes on the Steam-Engine; Northcott's Steam-Engine. Goodeve's Elements of Mechanism.
<i>Physics and chemistry.</i>	5	4	<b>SOUND, LIGHT, AND HEAT:</b> Properties of sound; atmospheric and other vibrations; properties of light; optical instruments; double refraction; polarization; temperature and its measurement by thermometers; dilatation of solids, liquids, and gases; application of the laws of dilatation; changes of state; liquefaction and solidification; production of vapor and its condensation; effect of heat upon other properties of matter; radiant heat and its reflection and radiation; theory of exchanges; conduction and convection; specific and latent heat; relation between heat and mechanical effect; thermodynamics. Lectures.	Ganot's Physics. Balfour Stewart's Elementary Treatise on Heat.
<i>Mechanics and applied mathematics.</i>	5	2	<b>DIFFERENTIAL CALCULUS:</b> Functions; rates; differentials of functions; indeterminate forms; series; maxima and minima; geometrical applications; functions of two or more variables.	Rice and Johnson's Differential Calculus.
	5	2	<b>INTEGRAL CALCULUS:</b> The methods of integration; definite integrals; quadrature of surfaces; cubature of volumes; rectification of curves; centres of gravity; moments of inertia; planimeters; rules for the approximate determination of areas and volumes; differential equations.	Johnson's Integral Calculus.
<i>Mechanical drawing.</i>	2	4	<b>MECHANICAL DRAWING:</b> Practice in drawing ordnance, ordnance accessories, and the various kinds of implements and machinery used in the naval service.	Tompkin's Machine Construction and Drawing.

## COURSE OF INSTRUCTION.

## THIRD YEAR—SECOND CLASS.

## SECOND TERM.

Department.	Weekly recitations.	Number of months.	Subject.	Text-books.
<i>Steam engineering.</i>	†3½	4	Course for first term continued.	
<i>Physics and chemistry.</i>	5	4	<b>ELECTRICITY AND MAGNETISM:</b> Frictional electricity; magnetism; current electricity; electrostatics; electromagnetics; measurement of currents; heat, light, and work from electric currents; thermoelectricity; induction currents; electrochemistry; telegraphs and telephones. Electrical machines; potential; electrometers; theory of absolute measurement; specific inductive capacity; measurement of resistances. Practical lessons with batteries; practical work with electrical and dynamo-machines; measurement of resistances; galvanometers; determination of dip and intensity; use of magnetometer. Fox dip-circle; absolute electrometer; dynamometer, and secondary batteries. Lectures on metallurgy of gun-metals, and on theory and action of explosives. Practical exercises in the laboratory illustrating the formation and action of explosives; testing oils and paints.	<b>Thompson's Electricity and Magnetism.</b> <b>Kempe's Hand-Book of Electrical Testing.</b> <b>Day's Exercises in Electrical Measurement.</b> <b>Day's Electric Light Arithmetic.</b> <b>Kohlrausch's Physical Measurements.*</b>
<i>Mechanics and applied mathematics.</i>	5	4	<b>MECHANICS:</b> Kinematics; dynamics; kinetics; hydro-mechanics; the motion of projectiles; friction and other resistances; the application of mechanical principles to simple machines and to instruments.	<b>Bartlett's Mechanics.</b> <b>Walton's Problems in Elementary Mechanics.</b>
<i>English studies, history, and law.</i>	2	4	<b>INTERNATIONAL LAW:</b> The rights and duties of States; the powers and duties of diplomatic envoys, consuls, and naval commanders; nationality, as to persons and as to vessels; jurisdiction over vessels, at sea and in territorial waters; the relations of ships of war, at sea and in foreign ports; fugitives and deserters; the laws of war; hostile measures falling short of war; privateers; the rights and duties of neutrals; enemy's property on land and at sea; the right of search; prizes; blockade; contraband; licenses to trade; recaptures; treaty of peace.	<b>Woolsey's International Law.</b>

†Saturday morning period.

# COURSE OF INSTRUCTION.

53

## FOURTH YEAR—FIRST CLASS.

### FIRST TERM.

Department.	Weekly recitations.	Number of months.	Subjects.	Text-books.
<i>Seamanship, naval construction, and naval tactics.</i>	4	4	<p>NAVAL CONSTRUCTION: Wooden ship building; iron ship building; sheathing of ships; composite ships; launching; docks; docking; heaving down.</p> <p>SEAMANSHIP: Rigging ships; fitting ships for sea; stowage; bending and unbending sails; evolutions; duties of officers; repairs to rigging and spars; emergencies; organization; fitting and management of boats.</p> <p>Rules of the road; laws of storms.</p> <p>NAVAL TACTICS: Orders of steaming; fleet manœuvres.</p> <p>Signaling.</p>	<p>Wilson's Ship Building; Thearle's Naval Architecture.</p> <p>Reld's Ship Building.*</p> <p>Luce's Seamanship.</p> <p>Publications of the Bureau of Equipment and Recruiting.</p> <p>Navy Department pamphlets.</p> <p>Parker's Fleet Tactics.</p> <p>Signal Books.</p>
<i>Ordnance and gunnery.</i>	3		<p>ORDNANCE INSTRUCTIONS: Handling great guns; preparing ship for action; duties of officers and men when at quarters for exercise, and when engaged in battle.</p> <p>Handling boat howitzers and machine guns, afloat and on shore.</p> <p>Landing of seamen and marines.</p> <p>INFANTRY TACTICS: School of the soldier; school of the company; school of the battalion; instructions for skirmishers.</p> <p>GUNNERY: The motion of projectiles in a non-resisting medium and in air; the methods of Niven and of Sladen for finding the trajectory, the remaining velocity, and the angle of fall; the dangerous space; sighting and pointing guns; the errors liable to occur in practice at sea, and the methods of avoiding them; the preparation of range tables and corrections for jump and drift; the determination of ranges at sea.</p>	<p>Ordnance Instructions.</p> <p>Upton's Tactics.</p> <p>Text-Book of Ordnance and Gunnery (Naval Academy Publication.)</p> <p>Mackinlay's Principles of Gunnery.</p>
<i>Astronomy, navigation, and surveying.</i>	6	4	<p>THE CELESTIAL SPHERE: Spherical and rectangular co-ordinates; use of instruments, especially those for determining terrestrial latitudes and longitudes; refraction; dip; parallax; the earth, sun, planets, and solar system in general; different units, of time and calendars; laws of universal gravitation, precession, nutation, and aberration; the moon: eclipses and occultations; tides; nebular hypothesis; comets and meteoric bodies; fixed stars; nebulae; motion of the solar system; solutions of the astronomical triangle; use of the Nautical Almanac.</p>	<p>White's Astronomy; Chauvenet's Spherical and Practical Astronomy; Bowditch's Navigator; American Ephemeris and Nautical Almanac.</p>

## COURSE OF INSTRUCTION.

## FOURTH YEAR—FIRST CLASS.

## FIRST TERM—Continued.

Department.	Weekly recitations.	Number of months.	Subjects.	Text-books.
<i>Astronomy, navigation, and surveying.</i>			THE THEORY AND PRACTICE OF NAVIGATION, the latter including instruction in the duties of the navigator, the construction and use of navigating instruments, the use of the tables and solution of problems; determination of meridian distances.	Coffin's Navigation; Notes on Navigation and Meridian Distances.
<i>Mechanics and Applied Mathematics.</i>	3	1	METHOD OF LEAST SQUARES: The theory of least squares and probable errors; fundamental principles of the theory; practical methods and formulas; independent observations; conditioned observations.	Merriman's Method of Least Squares.
	3	3	APPLIED MECHANICS: Elasticity; stress and strain; theory of structures; strength and deflection of beams; beams of uniform resistance.	Cotterill's Applied Mechanics.

## SECOND TERM.

<i>Seamanship, naval construction, and naval tactics.</i>	5	4	Course in seamanship continued.	
<i>Ordnance and gunnery.</i>	*5½	4	<p>GUNNERY: Accuracy and rapidity of fire; the probability of hitting objects of various forms; the mean and probable errors of guns; derivation of rules for correcting certain errors which arise in practice at sea; the penetration and effect of projectiles.</p> <p>ORDNANCE: The manufacture of guns; description of service guns; computation of the strength and shrinkage of guns; rifling; rotation and its influence on the motion of projectiles. The manufacture and use of gunpowder and other explosives; the force developed when explosives are fired in their own volume, and the equation of motion of the projectile in the bore of a gun on this hypothesis, and also on the hypothesis that the explosive burns progressively; the laws of burning of grains of gunpowder of various forms; the formulas of Noble and Abel connecting pressures with density of loading, and for determining the work of expansion in a gun; development of the principles involved in loading guns; formulas connecting muzzle velocities and pressures with the elements of loading.</p>	<p>Text-Book of Ordnance and Gunnery (Naval Academy Publication). Breger's Probability of Hitting an Object.</p> <p>Virgile's Construction of Guns; Sarrau on the Effects of Powder in Guns.</p>

\* Saturday period.

## FOURTH YEAR—FIRST CLASS.

## SECOND TERM—Continued.

Department.	Weekly recitations.	Number of months.	Subjects.	Text-books.
<i>Ordnance and gunnery.</i>	*5 $\frac{1}{2}$	4	GUN CARRIAGES: Their construction and the mechanism employed in controlling and adjusting recoil, and the theory of such control. AMMUNITION: Its preparation and use.	
<i>Astronomy, navigation, and surveying.</i>	5	4	THEORY OF DEVIATION OF THE COMPASS, including the derivation and transformation of the fundamental equations, the nature and causes of the several parts of deviation, the determination of the vertical and horizontal forces of the earth and ship, and of the values of the approximate and exact coefficients, the causes and amount of the heeling error, the changes which take place upon a change of geographical position, the graphic representations of the amount and direction of the forces which act on the needle, and the mechanical correction of the deviation and heeling errors. Navigation concluded.	Howell's Theory of the Deviations of the Compass; Evans's Elementary Manual for the Deviations of the Compass in Iron Ships.
	5	4	SURVEYING: The instruments used; selection and measurement of bases; determination of azimuth of base; triangulation; determination of heights; leveling; plotting a survey; hydrographical surveying, including the Coast Survey methods; tidal observations; current observations; sailing directions; the form of the earth, with special reference to the construction of charts; projection by development; Mercator's, Flamsteed's, and Bonne's projections; the ordinary polyconic projection of the United States Coast Survey; running surveys; portable transit instrument and zenith telescope. Astronomy concluded.	Chauvenet's Spherical and Practical Astronomy; Howell's Marine Surveying; Projection Tables; Bowditch's Navigator.

\* Saturday period.

## COURSE OF INSTRUCTION.

## ASSIGNMENT OF TIME.

Departments.	Fourth class.		Third class.		Second class.		First class.	
	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.
Astronomy, Navigation, and Surveying . .	.	.	.	.	.	.	6	5
Drawing . . . . .	.	.	1	5½	2	.		
English Studies, History, and Law . . . .	5	5	5	.	.	2		
Ordnance and Gunnery . . . . .	.	.	.	.	.	.	3	5½
Mathematics . . . . .	6	5	5	5				
Mechanics and Applied Mathematics . . .	.	.	.	.	5	5	3	
Modern Languages . . . . .	5	5½	5					
Physics and Chemistry . . . . .	.	.	.	5	5	5		
Seamanship, Naval Tactics, and Naval Construction	.	.	.	.	.	.	4	5
Steam Engineering . . . . .	.	.	.	.	4	3½		

## PROGRAMME OF RECITATIONS.

## FIRST TERM.

Departments.	Fourth class.	Third class.	Second class.	First class.
Astronomy, Navigation, and Surveying	.	.	.	M. T. W. Th. F. S. (1).
Drawing	.	S. (1)	M. T. (3).	.
English Studies, History, and Law	M. T. W. Th. F. (2)	M. T. W. Th. F. (3).	.	W. (3), Th. F. (2).
Ordnance and Gunnery	M. T. W. Th. F. S. (1)	M. T. W. Th. F. (2).	.	M. T. W. (2).
Mathematics	M. T. W. Th. F. (3)	M. T. W. Th. F. (1).	M. T. W. Th. F. (1)	.
Mechanics and Applied Mathematics	.	.	M. T. W. Th. F. (2).	.
Modern Languages	.	.	W. Th. F. (3), S. (1).	M. T. Th. F. (3).
Physics and Chemistry	.	.	.	.
Seamanship, Naval Tactics, and Naval Construction	.	.	.	.
Steam Engineering	.	.	.	.

## SECOND TERM.

Astronomy, Navigation, and Surveying	.	.	.	M. T. W. Th. F. (1).
Drawing	.	M. T. W. Th. F. (3), S. (1)	F. (7.30 to 9.30 p. m.) *	.
English Studies, History, and Law	M. T. W. Th. F. (2)	.	M. T. (3).	.
Ordnance and Gunnery	M. T. W. Th. F. (1)	M. T. W. Th. F. (2)	.	M. T. W. Th. F. (2), S. (1).
Mathematics	M. T. W. Th. F. (3), S. (1)	.	M. T. W. Th. F. (1).	.
Mechanics and Applied Mathematics	.	.	M. T. W. Th. F. (2).	.
Modern Languages	.	M. T. W. Th. F. (1), F. (7.30 to 9.30 p. m.) *	.	M. T. W. Th. F. (3).
Physics and Chemistry	.	.	W. Th. F. (3), S. (1)	F. (7.30 to 9.30 p. m.) *
Seamanship, Naval Tactics, and Naval Construction	.	.	.	.
Steam Engineering	.	.	.	.

\* Lectures and practical instruction during March, April, and May.



TABLE OF COEFFICIENTS.

Department and subjects.	Fourth class.	Third class.	Second class.	First class.	Maxima for four years.	Maxima for final graduation.
<i>Astronomy, Navigation, and Surveying.</i>						
Astronomy, Surveying, Theory of Navigation, Practical Navigation, and Theory of Compass Deviation . . . . .	.	.	.	20	80	48
<i>Drawing.</i>						
Mechanical Drawing . . . . .	.	6	4		40	
<i>English Studies, History, and Law.</i>						
English and History . . . . .	6					
English, History, and Law . . . . .	.	6				
International Law . . . . .	.	.	4		64	
<i>Mathematics.</i>						
Algebra and Geometry . . . . .	6					
Trigonometry, Analytical Geometry, and Descriptive Geometry . . . . .	.	12			72	
<i>Mechanics and Applied Mathematics.</i>						
Differential and Integral Calculus, and Mechanics. Least Squares and Strength of Materials . . . . .	.	.	14	5	76	
<i>Ordnance and Gunnery.</i>						
Ordnance Instructions, Infantry Tactics, Gunnery Ordnance and Gunnery . . . . .	.	.	.	8 12	80	48
<i>Modern Languages.</i>						
French and Spanish . . . . .	6					
French and Spanish . . . . .	.				48	24
<i>Physics and Chemistry.</i>						
Chemistry . . . . .	.	6				
Sound, Light, and Heat . . . . .	.	.	7			
Electricity and Magnetism . . . . .	.	.	7		80	
<i>Seamanship, Naval Tactics, and Naval Construction.</i>						
Ship Building . . . . .	.	.	.	6 18	96	60
Seamanship and Naval Tactics . . . . .	.	.	.			12
Cruise Reports, Journals, and Testimonials . . . . .	.	.	.			
<i>Steam Engineering.</i>						
Steam Machinery, Marine Engines, and Boilers Practical Instruction in Steam . . . . .	.	.	18 2	2	80	48
Conduct . . . . .	1	2	8	5	44	
Maxima for each class . . . . .	76	152	228	304	760	240

Deductions for each demerit, 0.013, 0.032, 0.06, 0.133.

*SEAMANSHIP.*

Knotting and splicing; compass and lead line; ship nomenclature; cutting and fitting hemp rigging; cutting and fitting wire rigging; rowing, and the management of boats under oars and under sail; sail making; making up, bending, unbending, and handling sails; rigging ship; stripping ship; shifting spars; getting under way and anchoring; evolutions with vessels under sail and under steam; signaling, Myer's and Navy codes; management of steam launches; steam fleet-tactics (with steam launches).

*ORDNANCE AND GUNNERY.*

School of the soldier; school of the company; school of the battalion (infantry); skirmish drill; school of the battery; school of the battalion (artillery); exercises with broadside guns, pivot guns, monitor guns, mortars, boat howitzers, and machine guns; target practice with small-arms; target practice with mortars; target practice afloat with machine guns, rifled howitzers, and great guns; small-sword exercise; broadsword exercise; handling and firing torpedoes; determination of the strength and elasticity of gun-metal, with testing machine; determination of muzzle velocities with the Schultz chronoscope; determination of pressures in guns by means of pressure gauges; experimental determination of range tables, also of the jump and drift; application of photography to ordnance purposes; the preparation and inspection of ordnance material.

*ASTRONOMY, NAVIGATION, AND SURVEYING.*

Practical navigation; surveying and constructing a chart of a portion of the Severn River.

Swinging an iron ship, and observing the deviations and the times of vibration of horizontal and vertical needles on different courses; and from these observations finding the approximate and the exact coefficient and the horizontal and vertical forces acting on the standard and steering compasses. Also finding the heeling coefficients for the same compasses without heeling the ship.

*STEAM ENGINEERING.*

Vise-bench work; forging; boiler-making; pattern-making; machine-tool work; taking apart and putting together engines; running engines of launches, vessels, and monitors (motive and turret).

# PROGRAMME OF PRACTICAL INSTRUCTION

When more than one exercise is prescribed during a week the number of such exercises is indicated by a figure in parenthesis.

## FIRST CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct.....	1	Company (5). Monitor (1).	Battery (5). Monitor (1).	Target great guns(5). Monitor (1).	Steam tactics (5). Monitor (1).
	2	Battery (5). Monitor (1).	Company (5). Monitor (1).	Steam tactics (5). Monitor (1).	Target great guns(5). Monitor (1).
	3	Target great guns(5). Monitor (1).	Steam tactics (5). Monitor (1).	Company (5). Monitor (1).	Battery (5). Monitor (1).
	4	Steam tactics (5). Monitor (1).	Target great guns(5). Monitor (1).	Battery (5). Monitor (1).	Company (5). Monitor (1).
Nov.....	1	Battalion infantry(5). Monitor (1).	Battalion infantry(5). Monitor (1).	Battalion infantry(5). Monitor (1).	Battalion infantry(5). Monitor (1).
	2	Seamanship (5). Monitor (1).	Seamanship (5). Monitor (1).	Seamanship (5). Monitor (1).	Seamanship (5). Monitor (1).
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
Dec.....	1	Broad sword.	Steam.	Practical Ordnance.	Steam.
	2	Steam.	Broad sword.	Steam.	Practical ordnance.
	3	Practical ordnance.	Steam.	Broad sword.	Steam.
	4				
Jan.....	1	Steam.	Practical ordnance.	Steam.	Broad sword.
	2	Small sword.	Steam.	Practical ordnance.	Steam.
	3	Steam.	Small sword.	Steam.	Practical ordnance.
	4	Practical ordnance.	Steam.	Small sword.	Steam.
	5	SEMI-ANNUAL EXAMINATION.			
Feb.....	1	Steam.	Practical ordnance.	Steam.	Small sword.
	2	Broad sword.	Steam.	Seamanship.	Steam.
	3	Steam.	Broad sword.	Steam.	Seamanship.
	4	Seamanship.	Steam.	Broad sword.	Steam.
Mar.....	1	Steam.	Seamanship.	Steam.	Broad sword.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Compass deviation (5).	Compass deviation (5).	Compass deviation (5).	Compass deviation (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
Apr.....	1	General quarters.	General quarters.	General quarters.	General quarters.
	2	Target great guns(5).	Skirmish (5).	Steam tactics (5).	Torpedoes (5).
	3	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
		Skirmish (5).	Target great guns(5).	Torpedoes (5).	Steam tactics (5).
	4	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
		Steam tactics (5).	Torpedoes (5).	Target great guns(5).	Skirmish (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
May.....	1	Torpedoes (5).	Steam tactics (5).	Skirmish (5).	Target great guns(5).
		General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	2	Battalion infantry(5).	Battalion infantry(5).	Battalion infantry(5).	Battalion infantry(5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	3	Battalion artillery(3).	Battalion artillery(3).	Battalion artillery(3).	Battalion artillery(3).
		Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	4	Steam tactics (3).	Steam tactics (3).	Steam tactics (3).	Steam tactics (3).
		General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
(Fifth week.)	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Steam tactics.	Steam tactics.	Steam tactics.	Steam tactics.
	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.
June 1 to 10.....	ANNUAL EXAMINATION.				
June 10 to Aug. 28	Practice cruise.				
Sept.....	On leave.				

## SECOND CLASS.

Months	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct.....	1	Company.	Battery.	Pivot guns.	Running steam launches.
	2	Battery.	Company.	Running steam launches.	Pivot guns.
	3	Pivot guns.	Running steam launches.	Company.	Battery.
	4	Running steam launches.	Pivot guns.	Battery.	Company.
Nov.....	1	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
Dec.....	1	Small sword.	Steam.	Navy signals.	Steam.
	2	Steam.	Small sword.	Steam.	Navy signals.
	3	Navy signals.	Steam.	Small sword.	Steam.
	4				
Jan.....	1	Steam.	Navy signals.	Steam.	Small sword.
	2	Broad sword.	Steam.	Seamanship.	Steam.
	3	Steam.	Broad sword.	Steam.	Seamanship.
	4	Seamanship.	Steam.	Broad sword.	Steam.
SEMI-ANNUAL EXAMINATION.					
Feb.....	1	Steam.	Seamanship.	Steam.	Broad sword.
	2	Small sword.	Steam.	Practical ordnance.	Steam.
	3	Steam.	Small sword.	Steam.	Practical ordnance.
	4	Practical ordnance.	Steam.	Small sword.	Steam.
Mar.....	1	Steam.	Practical ordnance.	Steam.	Small sword.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Broad sword (5).	Broad sword (5).	Broad sword (5).	Broad sword (5).
Apr.....	1	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	2	General quarters.	General quarters.	General quarters.	General quarters.
		Target great guns(5).	Skirmish (5).	Steam tactics (5).	Target machine guns (5).
	3	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
May.....		Skirmish (5).	Target great guns(5).	Target machine guns (5).	Steam tactics (5).
	4	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
		Steam tactics (5).	Target machine guns (5).	Target great guns(5).	Skirmish (5).
	1	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
(Fifth week.)		Target machine guns (5).	Steam tactics (5).	Skirmish (5).	Target great guns(5).
	2	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
		Battalion infantry(5).	Battalion infantry(5).	Battalion infantry(5).	Battalion infantry(5).
	3	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
		Battalion artillery(3).	Battalion artillery(3).	Battalion artillery(3).	Battalion artillery(3).
	4	Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
		General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Small sword.	Small sword.	Small sword.	Small sword.
	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
June 1 to 10.....	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.
ANNUAL EXAMINATION.					

## SECOND CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
July...	3	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Myer's signals p. m.	Machine shop a. m. Mortar practice p. m.	Machine shop a. m. Boats under sail p. m.
	4	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Myer's signals p. m.	Machine shop a. m. Mortar practice p. m.
	1	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Myer's signals p. m.
	2	Running steam cutters a. m. Navy signals p. m.	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Target machine guns p. m.
	3	Machine shop a. m. Steam tactics p. m.	Running steam cutters a. m. Navy signals p. m.	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Howitzers afloat p. m.
	4	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Steam tactics p. m.	Running steam cutters a. m. Navy signals p. m.	Machine shop a. m. Target howitzers p. m.
	5	Machine shop a. m. Target practice great guns p. m.	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Steam tactics p. m.	Running steam cutters a. m. Navy signals p. m.
	1	Machine shop a. m. Boats under oars p. m.	Machine shop a. m. Target great guns p. m.	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Steam tactics p. m.
	2	Machine shop a. m. Boats under sail p. m.	Machine shop a. m. Boats under oars p. m.	Machine shop a. m. Target great guns p. m.	Machine shop a. m. Steam tactics p. m.
	3	Machine shop a. m. Mortar practice p. m.	Machine shop a. m. Boats under sail p. m.	Machine shop a. m. Boats under oars p. m.	Machine shop a. m. Target great guns p. m.
	4	Machine shop a. m. Myer's signals p. m.	Machine shop a. m. Mortar practice p. m.	Machine shop a. m. Boats under sail p. m.	Machine shop a. m. Boats under oars p. m.
	1	} On leave.	On leave.	On leave.	On leave.
Sept.....	2				
	3				
	4				

## THIRD CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct.....	1	Company.	Battery.	Pivot guns.	Boats with oars.
	2	Battery.	Company.	Boats with oars.	Pivot guns.
	3	Pivot guns.	Boats with oars.	Company.	Battery.
	4	Boats with oars.	Pivot guns.	Battery.	Company.
Nov.....	1	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
Dec.....	1	Small sword.	Seamanship.	Broadside guns.	Rigging loft.
	2	Rigging loft.	Small sword.	Seamanship.	Broadside guns.
	3	Broadside guns.	Rigging loft.	Small sword.	Seamanship.
	4				
Jan.....	1	Seamanship.	Broadside guns.	Rigging loft.	Small sword.
	2	Small sword.	Target small arms.	Broadside guns.	Rigging loft.
	3	Rigging loft.	Small sword.	Target small arms.	Broadside guns.
	4	Broadside guns.	Rigging loft.	Small sword.	Target small arms.
	5	SEMI-ANNUAL EXAMINATION.			
Feb.....	1	Target small arms.	Broadside guns.	Rigging loft.	Small sword.
	2	Small sword.	Target pistol.	Myer's signals.	Rigging loft.
	3	Rigging loft.	Small sword.	Target pistol.	Myer's signals.
	4	Myer's signals.	Rigging loft.	Small sword.	Target pistol.
Mar.....	1	Target pistol.	Myer's signals.	Rigging loft.	Small sword.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Pivot guns (5).	Pivot guns (5).	Pivot guns (5).	Pivot guns (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
Apr.....	1	General quarters.	General quarters.	General quarters.	General quarters.
	2	Target small arms (5).	Skirmish (5).	Seamanship (5).	Boats with oars (5).
		General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	3	Skirmish (5).	Target small arms (5).	Boats with oars (5).	Seamanship.
		Seamanship (1).	Seamanship (1).	Seamanship (1).	
	4	Seamanship.	Boats with oars (5).	Target small arms (5).	Skirmish (5).
			Seamanship (1).	Seamanship (1).	Seamanship (1).
May.....	1	Boats with oars (5).	Seamanship (5).	Skirmish (5).	Target small arms (5).
		General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	2	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	3	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).
		Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	4	Small sword (3).	Small sword (3).	Small sword (3).	Small sword (3).
		General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
(Fifth week.)	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Boats with oars.	Boats with oars.	Boats with oars.	Boats with oars.
	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.
June 1 to 10.	ANNUAL EXAMINATION.				
June 10 to Aug. 28.	Practice cruise.				
Sept.....	On leave.				

## FOURTH CLASS.

Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
Oct.....	1	Company.	Battery.	Gymnastics.	Boats with oars.
	2	Battery.	Company.	Boats with oars.	Gymnastics.
	3	Gymnastics.	Boats with oars.	Company.	Battery.
	4	Boats with oars.	Gymnastics.	Battery.	Company.
Nov.....	1	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
Dec.....	1	Dancing.	Gymnastics.	Broadside guns.	Rigging loft.
	2	Rigging loft.	Dancing.	Gymnastics.	Broadside guns.
	3	Broadside guns.	Rigging loft.	Dancing.	Gymnastics.
	4				
Jan.....	1	Gymnastics.	Broadside guns.	Rigging loft.	Dancing.
	2	Dancing.	Gymnastics.	Broadside guns.	Rigging loft.
	3	Rigging loft.	Dancing.	Gymnastics.	Broadside guns.
	4	Broadside guns.	Rigging loft.	Dancing.	Gymnastics.
	5	SEMI-ANNUAL EXAMINATION.			
Feb.....	1	Gymnastics.	Broadside guns.	Rigging loft.	Dancing.
	2	Dancing.	Gymnastics.	Dancing.	Rigging loft.
	3	Rigging loft.	Dancing.	Gymnastics.	Dancing.
	4	Dancing.	Rigging loft.	Dancing.	Gymnastics.
Mar.....	1	Gymnastics.	Dancing.	Rigging loft.	Dancing.
	2	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Company (5).	Company (5).	Company (5).	Company (5).
	5	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
Apr.....	1	General quarters.	General quarters.	General quarters.	General quarters.
	2	Rigging loft (5).	Skirmish (5).	Seamanship (5).	Boats with oars (5).
	3	Skirmish (5).	Rigging loft (5).	Boats with oars (5).	General quarters (1).
	4	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship.
	5	Seamanship.	Boats with oars (5).	Rigging loft (5).	Skirmish (5).
May.....	1	Boats with oars (5).	Seamanship (5).	Skirmish (5).	Seamanship (1).
	2	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	3	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).	Battalion infantry (5).
	4	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	5	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).
	6	Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	7	Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	8	General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
(Fifth week.)	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Boats with oars.	Boats with oars.	Boats with oars.	Boats with oars.
	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.
June 1 to 10.	ANNUAL EXAMINATION.				
June 10 to Aug. 28.	Practice cruise.				
Sept.....	1	School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
	2	School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
	3	School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
	4	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.
	5	School of soldier.*	School of soldier.*	School of soldier.*	School of soldier.*
	6	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.

\*Swimming daily.

# PROGRAMME OF RECITATIONS.

## FIRST TERM.

Departments.	Fourth class.	Third class.	Second class.	First class.
Astronomy, Navigation, and Surveying	.	.	.	M. T. W. Th. F. S. (1).
Drawing	.	S. (1)	M. T. (3).	.
English Studies, History, and Law	M. T. W. Th. F. (2)	M. T. W. Th. F. (3).	.	W. (3), Th. F. (2).
Ordnance and Gunnery	.	.	.	M. T. W. (2).
Mathematics	M. T. W. Th. F. S. (1)	M. T. W. Th. F. (2).	.	.
Mechanics and Applied Mathematics	.	.	M. T. W. Th. F. (1)	.
Modern Languages	M. T. W. Th. F. (3)	M. T. W. Th. F. (1).	M. T. W. Th. F. (2).	M. T. Th. F. (3).
Physics and Chemistry	.	.	.	.
Seamanship, Naval Tactics, and Naval Construction	.	.	W. Th. F. (3), S. (1).	.
Steam Engineering	.	.	.	.

## SECOND TERM.

Astronomy, Navigation, and Surveying	.	.	.	M. T. W. Th. F. (1).
Drawing	.	M. T. W. Th. F. (3), S. (1)	F. (7.30 to 9.30 p. m.) *	.
English Studies, History, and Law	M. T. W. Th. F. (2)	.	M. T. (3).	M. T. W. Th. F. (2), S. (1).
Ordnance and Gunnery	.	.	.	.
Mathematics	M. T. W. Th. F. (1)	M. T. W. Th. F. (2)	.	.
Mechanics and Applied Mathematics	.	.	M. T. W. Th. F. (1).	.
Modern Languages	M. T. W. Th. F. (3), S. (1)	{ M. T. W. Th. F. (1), F. (7.30 to 9.30 p. m.) }	M. T. W. Th. F. (2).	M. T. W. Th. F. (3).
Physics and Chemistry	.	.	.	F. (7.30 to 9.30 p. m.) *
Seamanship, Naval Tactics, and Naval Construction	.	.	W. Th. F. (3), S. (1)	.
Steam Engineering	.	.	.	.

\* Lectures and practical instruction during March, April, and May.



